PIONEER
The Art of Entertainment

Operating Instructions
Manual de instrucciones
使用說明書

STEREO TUNER AMPLIFIER
AMPLIFICADOR CON SINTONIZADOR ESTÉREO
立體聲調諧器放大器

SX-J720/SX-J420/SX-J320

SOUND FIELD PROCESSOR
PROCESADOR DE CAMPO SONORO
聲場處理器

SP-J720K/SP-J420

SOUND IMAGE CONTROLLER
CONTROLADOR DE IMAGEN SONORA
聲像控制器

GR-J320

STEREO DOUBLE CASSETTE TAPE DECK
GRABADORA DE DOBLE CASETE ESTEREOFÓNICA
立體聲雙卡式座

CT-J720WR/CT-J320WR

AUTO RETURN STEREO TURNTABLE
GIRADISCOS ESTEREOFÓNICO CON RETORNO AUTOMÁTICO
自動回位立體聲電唱機

PL-J210

SPEAKER SYSTEM*
SISTEMA DE ALTAVOCES*
揚聲器系統*

S-J720V/S-J420V

English

Español

中國語

*The speaker systems may differ depending on the systemconfiguration.
*El sistema de altavoces puede diferir dependiendo de la configuración del sistema.
*根據系統的配置，揚聲器系統可能有所不同。

VOLTAGE SELECTOR SWITCHES

Mains voltages in Saudi Arabia are 127V and 220V only. Never use this model with a 110V setting in Saudi Arabia.

The line voltage selector switches are on the rear panel. Before your model is shipped from the factory, these switches are set to the power requirements of the destination. Check that they are set properly before plugging the power cord into the household wall socket. If the voltage is not properly set or if you move to an area where the voltage requirements differ, adjust the selector switches as follows.

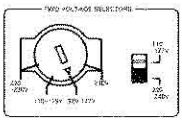
<Flat blade 2-pin AC plug model>

1. Use a medium-size screwdriver.
2. First, insert a screwdriver in the groove of the voltage selector at the right, and adjust so that the tip of the groove points to the voltage value of your area.
3. Next, insert a screwdriver in the groove of the voltage selector at the left and adjust until the voltage is the same as at the right.

<Round 2-pin AC plug model>

1. Use a medium-size screwdriver.
2. Insert a screwdriver in the groove of the voltage selecter, and adjust so that the tip of the groove points to the voltage value of your area.

[Tuner amplifier]



<Flat blade 2-pin AC plug model>

<Round 2-pin AC plug model>

INFORMATION TO USER

Alteration or modifications carried out without appropriate authorization may invalidate the users right to operate the equipment.

INFORMATION TO USER

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

– Reorient or relocate the receiving antenna.
– Increase the separation between the equipment and receiver.
– Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
– Consult the dealer or an experienced radio/TV technician for help.

Thank you for buying this Pioneer product.
Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.
In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

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[For tuner amplifier]

If the socket outlets on the associated equipment are not suitable for the plug supplied with the product, the plug must be removed and an appropriate one fitted.
The cut-off plug must be disposed of as an electrical shock hazard could exist if connected to a socket outlet.

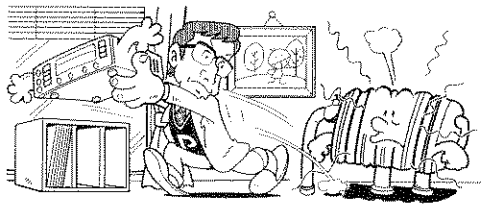
DEMO MODE

If the tuner amplifier's Function (Demo) button is pressed when the power is off, the DEMO (demonstration) mode is set and the power goes ON.
In the DEMO mode, the functions included in the variety setting of this system are displayed on the panel.
To cancel the DEMO mode, turn off the power switch or press the Function (Demo) button again.

CAUTIONS REGARDING HANDLING

Location

Install the unit in a well-ventilated location where it will not be exposed to high temperatures or humidity.
Do not install the unit in a location which is exposed to direct sunlight, or near hot appliances or radiators. Excessive heat can adversely affect the cabinet and internal components. Installation of the unit in a damp or dusty environment may result in a malfunction or accident. (Also avoid installation near cookers etc., where the unit may be exposed to smoke, steam or heat.)

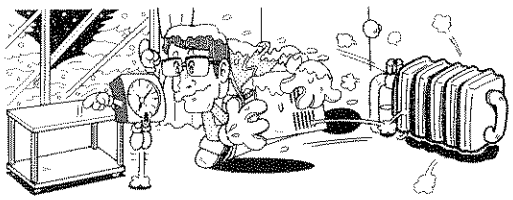


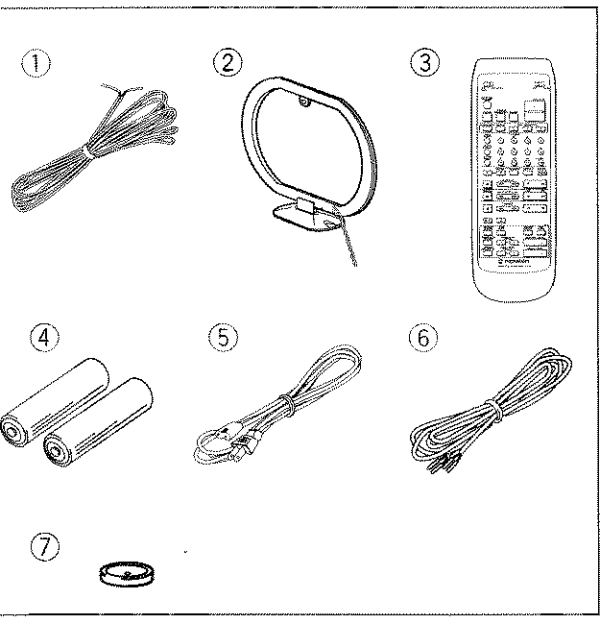
Precautions regarding installation

- Placing and using the unit for long periods on heatgenerating sources such as amplifiers will affect performance. Avoid placing the unit on heatgenerating sources.
- Install the unit as far as possible from TV sets. The unit installed in close proximity to such equipment may cause noise or degradation of the picture. Such noise may be particularly noticeable when an indoor antenna is used. If this occurs, make use of an outdoor antenna, or turn off power to the unit.

Condensation

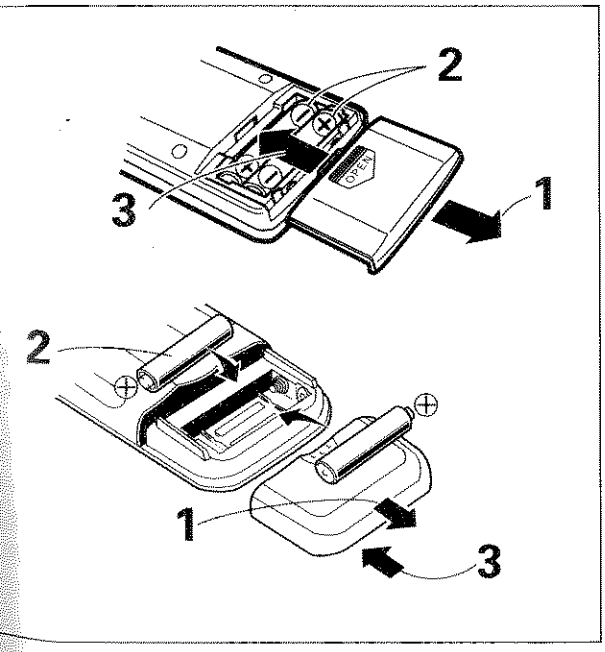
When the unit is brought into a warm room from previously cold conditions or when the room temperature is suddenly increased, condensation may form inside and the unit may not be able to attain its full performance. In cases like this, allow the unit to stand for about an hour or raise the room temperature gradually.





CONFIRM SUPPLIED ACCESSORIES

① FM T-type antenna
② AM loop antenna
③ Remote control unit (Illustration shows the SX-J720's supplied remote control unit.)
④ Batteries x 2 (R03/UM-4 (size AAA))
⑤ Power cord
⑥ Speaker cord (supplied with speakers) x 2
⑦ EP adapter (included with turntable).



LOADING BATTERIES INTO REMOTE CONTROL UNIT

1. **Open the rear cover.**
2. **Install size "AAA" (IEC R03/UM-4) batteries correctly matching polarity.**
3. **Close the cover.**

Incorrect use of batteries may lead to leakage or rupture. Always be sure to follow these guidelines:

A.
Always insert batteries into the battery compartment correctly matching the positive ⊕ and negative ⊖ polarities, as indicated inside the compartment.
B.
Never mix new and used batteries.
C.
Batteries of the same size may have different voltages, depending on their type. Do not mix different types of batteries.

DOLBY PRO LOGIC SURROUND

(SP-J720K and SP-J420 only)

Choose this setting for movie and music (especially Video Discs and video tapes bearing the DOLBY SURROUND mark) playback. DOLBY PRO LOGIC SURROUND continuously detects the size and direction of the dominant signal and cancels undesirable crosstalk, thereby providing signal emphasis.
It allows you to clearly perceive the source and direction of the music. Real flow of sound also can be re-created naturally using this feature. You feel as if you are in an outstanding and expansive sound field.

*

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DOLBY 3CH LOGIC

(SP-J720K and SP-J420 only)

Combining the rear speaker signal with that of the front speakers results in a regenerated sound field which has comparatively more presence and a more expansive feeling from the front 3 channels (front L, front R, and center speakers) than that of ordinary stereo regeneration.
DOLBY 3CH LOGIC can be used with stereo sources not encoded with DOLBY SURROUND.

DOLBY PRO LOGIC SURROUND, DOLBY 3CH LOGIC CENTER MODE

(SP-J720K and SP-J420 only)

<DOLBY PRO LOGIC SURROUND>
You can choose from the following settings:

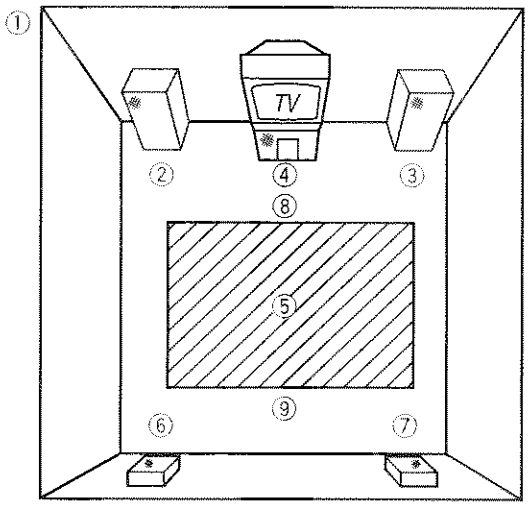
Center Mode choices:
When using a center speaker:
• **NORMAL** – Low range frequencies, which have little effect on directionality and positioning, are routed to the left and right front speakers. This allows you to use a relatively small size speaker as the center speaker.

When not using a center speaker: DOLBY PRO LOGIC SURROUND
• **PHANTOM** – The signal which would have been sent to the center speaker is divided equally between the left and right front speakers.

With DOLBY PRO LOGIC SURROUND, monaural source sound will be heard only from the center channel at settings other than the PHANTOM position.

<DOLBY 3CH LOGIC>
The center mode is fixed at the normal setting.

SPEAKER INSTALLATION



To get the most out of the surround system, place the speakers as shown in the figure.

① An example of speaker positioning
② Front left speaker
③ Front right speaker
④ Center speaker
⑤ Listening area
⑥ Rear left speaker
⑦ Rear right speaker
⑧ FRONT
⑨ REAR

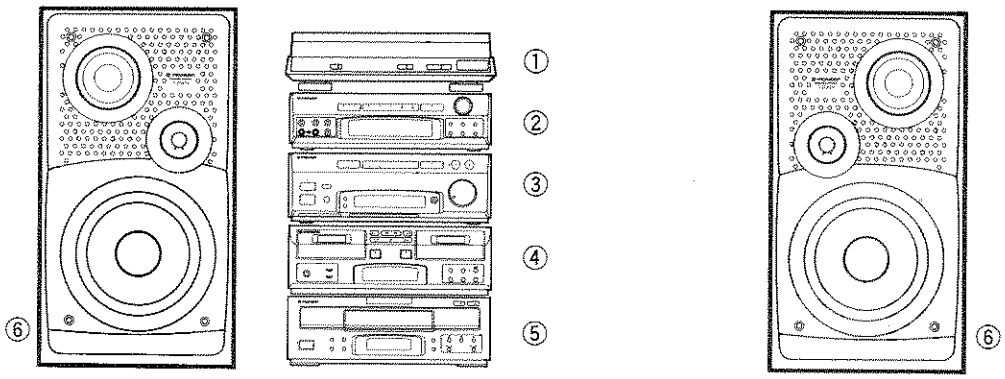
If the rear speakers are positioned too far from the system, the surround level becomes unable to adjust and the surround effect will not be fully achieved.

NOTE:

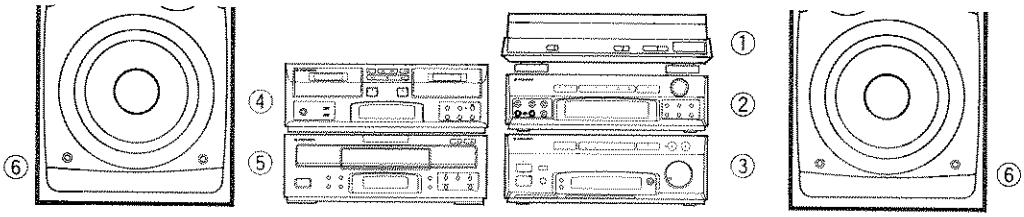
- *To avoid interference with the picture on a nearby TV set, use magnetically shielded speaker systems. This is particularly important for the center speaker since it is usually located closest to the TV.*
- *Position the left and right channel speakers at equal distances from the TV set and approximately 1.5 m from each other.*
- *Position the center speaker above, below, or behind the TV set. Sound may not appear to coincide with the picture if you position it next to the TV set.*
- *Rear speakers are best positioned slightly above ear level.*

SETTING UP THE SYSTEM

A



B



To get the best performance from this system, set it up as shown in the figure.

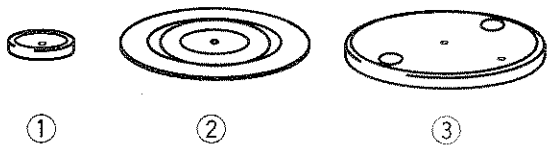
① Turntable
② Sound field processor or sound image controller
③ Stereo tuner amplifier
④ Cassette deck
(The illustration shows the CT-J720WR model.)
⑤ CD CDV LD player or compact disc player
(The illustration shows the CLD-J720 model.)
⑥ Speaker system

NOTE:

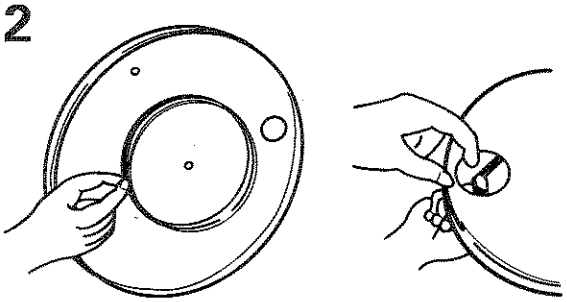
- *Place the speakers so that they aren't touching any other components. If they are touching, vibrations transmitted from the speakers to other components may adversely affect sound quality. Preventing radiation of heat from the amplifier may also cause malfunctioning.*
- *If the turntable is mounted directly on or against a speaker, the vibration from the speaker will be transported to the tonearm's cartridge, thus causing feedback howling. Be sure that speakers are mounted sufficiently isolated from the turntable.*
- *This system is equipped with a safety circuit which may operate in the event of abnormality to automatically cut off the power.*
- *When this system is connected to and used concurrently with a TV set, the TV may cause some noise in the sound. Interference may appear in the TV picture too. In such cases, move the TV away from this system.*

PL-J210 TURNTABLE SET UP

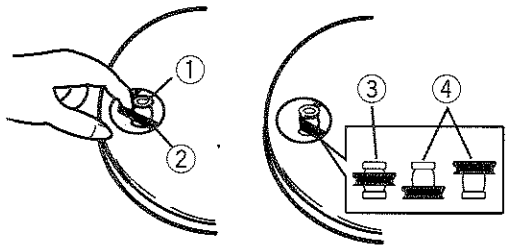
1



2



6

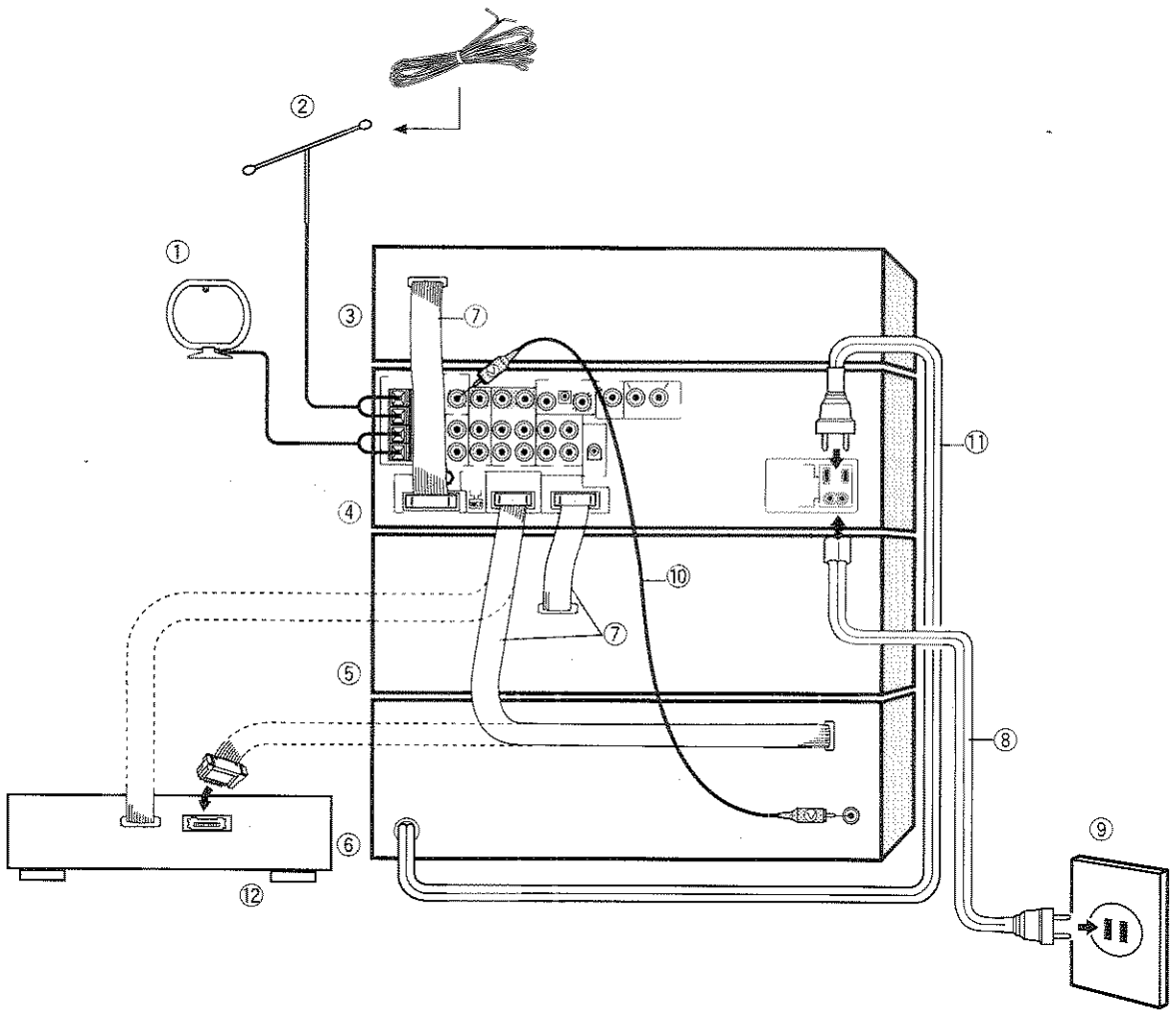


10

1. **Check the parts.**
   ① EP adapter
   (You will find this taped on the cabinet.)
   ② Platter mat
   ③ Platter
2. **Pinch belt on inner rim between thumb and forefinger.**
3. **Slip belt over finger and pull towards hole in platter.**
4. **Insert forefinger through the hole on top of platter and transfer belt to forefinger.**
5. **While holding belt, lower platter onto spindle.**
6. **Release belt onto pulley.**
   ① Pulley
   ② Belt
   ③ Correct
   ④ Incorrect
7. **Place platter mat on platter (with "PIONEER" side up).**
8. **Remove the vinyl band holding the tonearm.**
9. **Remove the plastic cover from the cartridge stylus.**
10. **Remove the tonearm from the armrest.**

CONNECTIONS

Antenna, system cable, and power cord connections



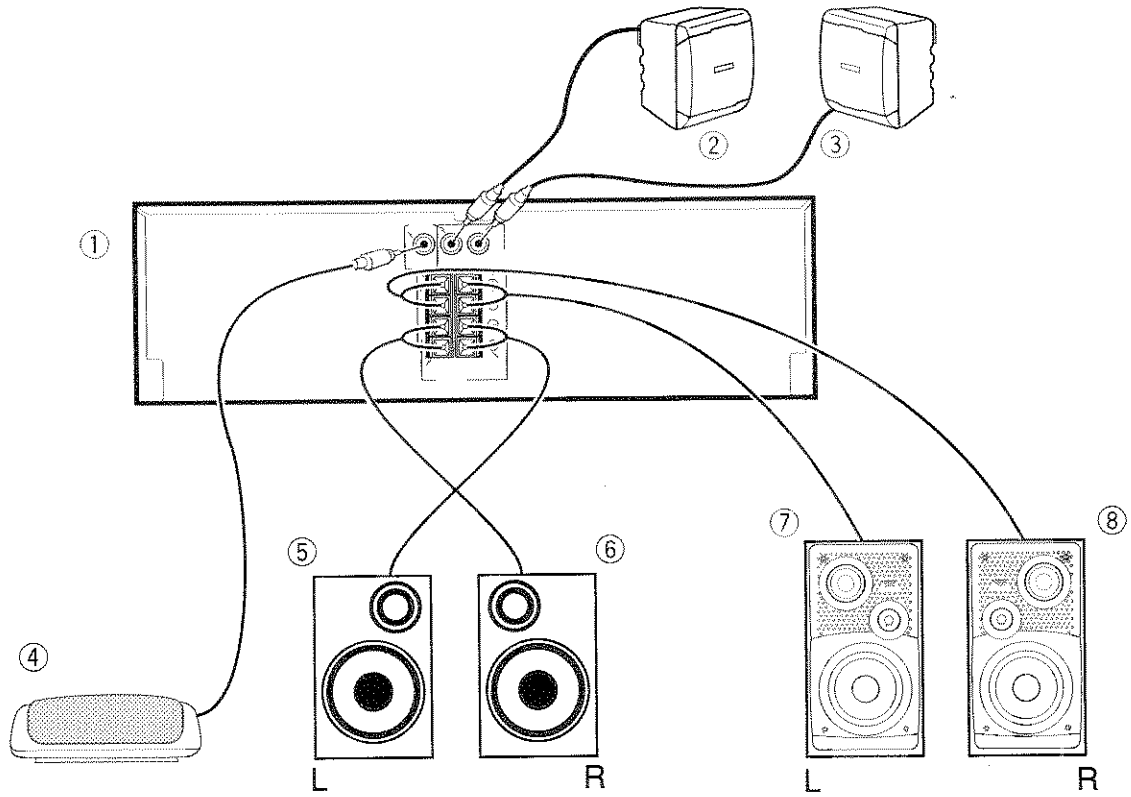
The illustration shows the connections between the SP-J720K and SX-J720 and the CT-J720WR and CLD-J720. If connected to a compact disc player, there is no video cord and power cord connection.

① Accessory AM loop antenna
② Accessory FM T-type antenna
③ Sound field processor or sound image controller (SP-J720K/SP-J420/GR-J320)
④ Tuner amplifier (SX-J720/SX-J420/SX-J320)
⑤ Cassette deck (CT-J720WR/CT-J320WR)
⑥ Compact disc player (PD-J920M) or CD CDV LD player (CLD-J720) (The illustration shows the CLD-J720 model.)
⑦ System cable (Flat cable)
⑧ Power cord
⑨ AC wall socket
⑩ Video cord (CLD-J720 only)
⑪ Power cord (CLD-J720 only)
⑫ Microphone-mixing amplifier MA-J90 (sold separately)

Be sure to plug the CLD-J720 into the AC OUTLET of the tuner amplifier.

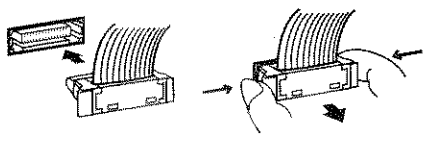
Plug the power cord into the AC wall socket outlet only after all the connections have been completed.

Speakers connections



① Tuner amplifier (The illustration shows the SX-J720 model.)
② Surround speaker (Right) (sold separately)
③ Surround speaker (Left) (sold separately)
④ Center speaker (except SX-J320) (sold separately)
⑤ Front speaker B (Left) (SX-J720 only) (sold separately)
⑥ Front speaker B (Right) (SX-J720 only) (sold separately)
⑦ Front speaker A (Left)
⑧ Front speaker A (Right)

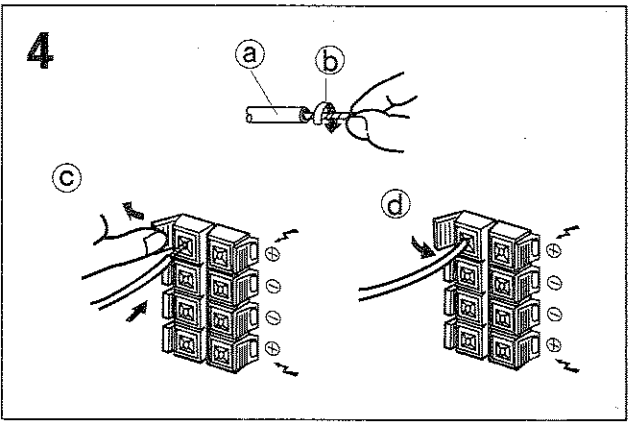
2

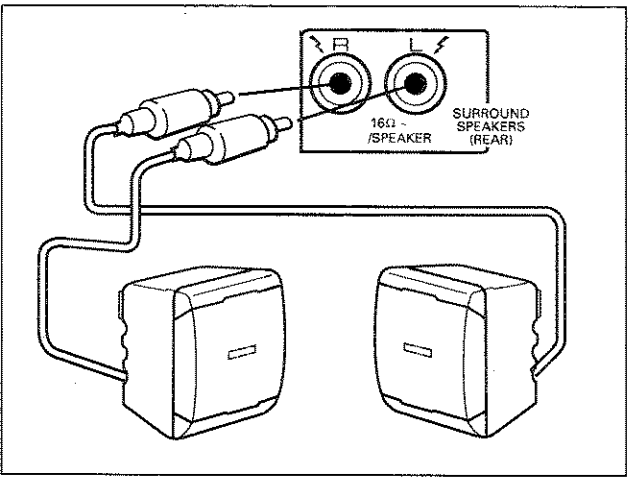


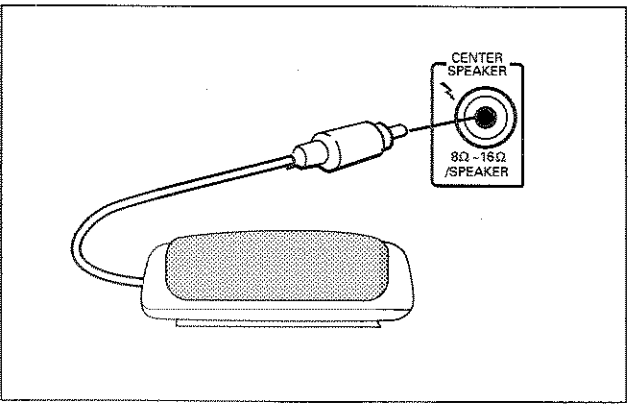
Proceed as follows with the setup and connections.

1. **Place the units from top to bottom in the order of sound field processor (or sound image controller), tuner amplifier, cassette deck and compact disc player (or CD CDV LD player). See page 16.**
2. **Connect the system cable as shown in the illustration at left.**

System cable connections:
Insert the connector until it locks, thus ensuring that it is connected. When disconnecting the connector, pull it out while pressing the left and right tabs.







Connecting the Microphone-Mixing Amplifier

Please consult the illustration on page 16 when connecting the Microphone-mixing amplifier MA-J90 (sold separately). Connect the flat cable form the compact disc player or CD CDV LD player to the MA-J90, and connect the flat cable from the MA-J90 to the tuner amplifier.

3. **Connect the FM T-type antenna and the AM loop antenna to the tuner amplifier's terminals. (See page 16.)**
4. **Connect the speaker cords to the SPEAKER terminal. Connect the "+" terminals on the tuner amplifier to the "+" terminals on the speakers, the "–" terminals on the tuner amplifier to the "–" terminals on the speakers.**

* Illustration shows model SX-J720.
ⓐ Speaker cord.
ⓑ Twist the strands.
ⓒ Push away.
ⓓ Pull back.

NOTE:
Do not allow the conductors of the cords to project beyond the terminals and to come into contact with other conductors. A breakdown or failure may occur when conductors touch one another.

Speaker impedance
Connect speaker systems with a nominal impedance of between 8 and 16 Ω.

Surround speaker connection

Connect the plugs properly.
* The speakers shown in the illustration are the Surround Speaker S-P77 (sold separately).
Connect a speaker system having a nominal impedance of 16 Ω or more. Only speaker cables with RCA pin-jack connectors can be used.

Center speaker connection (SX-J720 and SX-J420 only)

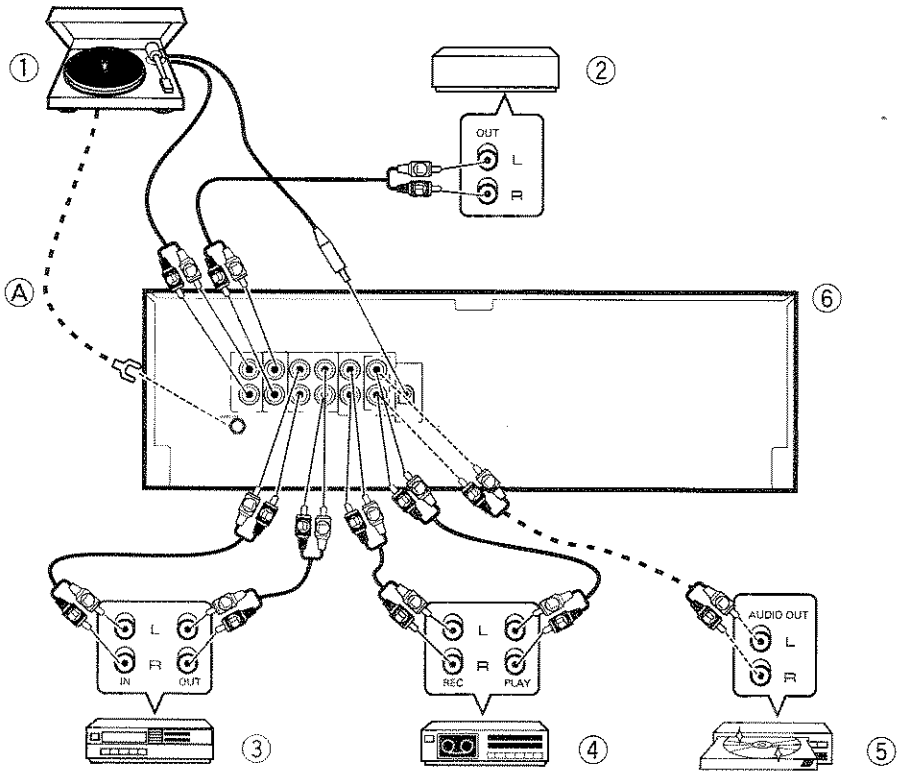
* The speaker shown in the illustration is the Center Speaker S-L77C (sold separately).
Speakers used with this system must have a nominal impedance of between 8 Ω and 16 Ω.
Only speaker cables with pin-jack connectors can be used.

5. **With a system incorporating the CLD-J720 CD CDV LD player, connect the CLD-J720's power cord to the tuner amplifier's AC OUTLET. Then connect the accessory power cord to the tuner amplifier's AC INLET, and connect the power plug to a AC wall socket.**

When connecting or disconnecting the system cable, do so only after disconnecting the plug from the AC wall socket.

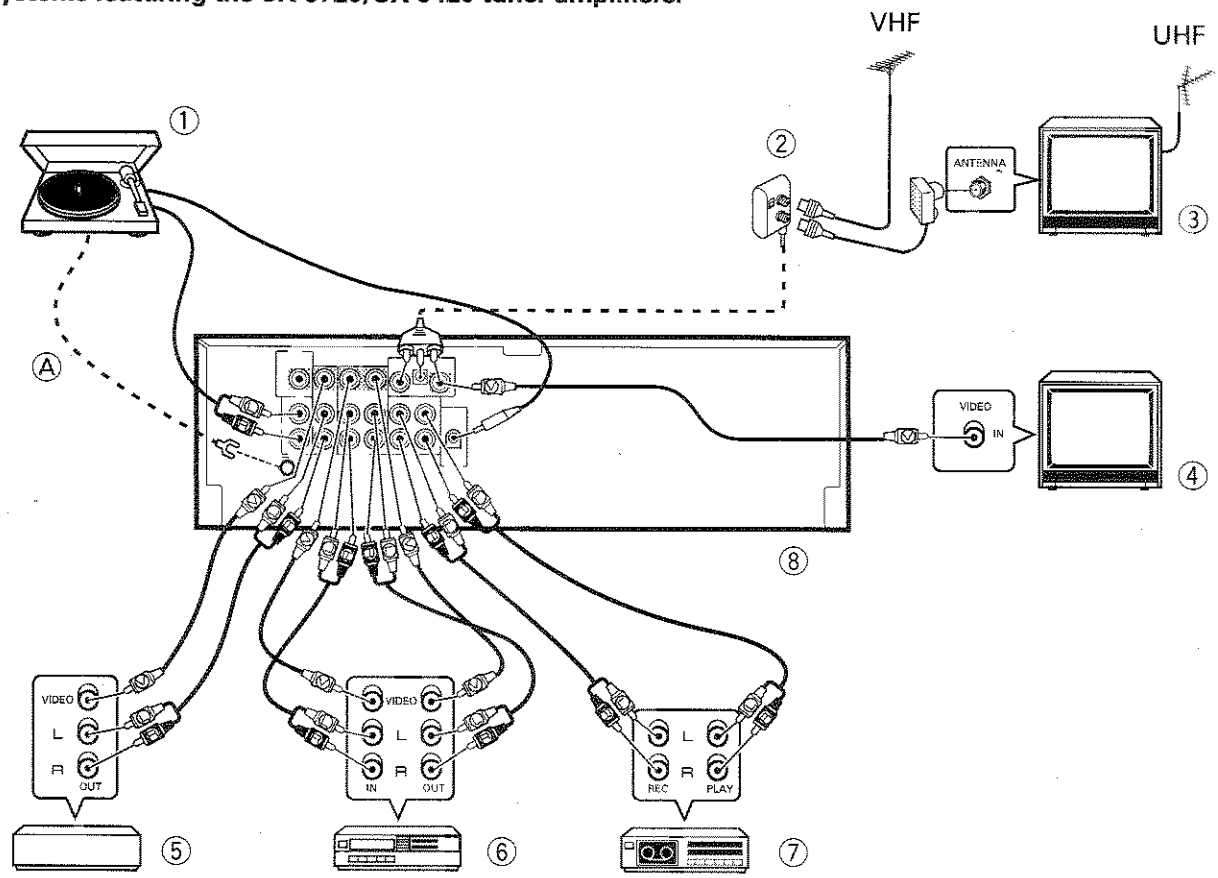
CONNECTING OTHER COMPONENTS

With systems featuring the SX-J320 tuner amplifier.



① Turntable (PL-J210 or other turntable)
When using a record player other than the PL-J210, connect the ground wire as shown in illustration Ⓐ.
② Audio equipment (such as a second CD player)
③ VCR (sound only)
④ DAT
⑤ Laser Disc player (sound only)
⑥ Tuner amplifier

With systems featuring the SX-J720/SX-J420 tuner amplifiers.

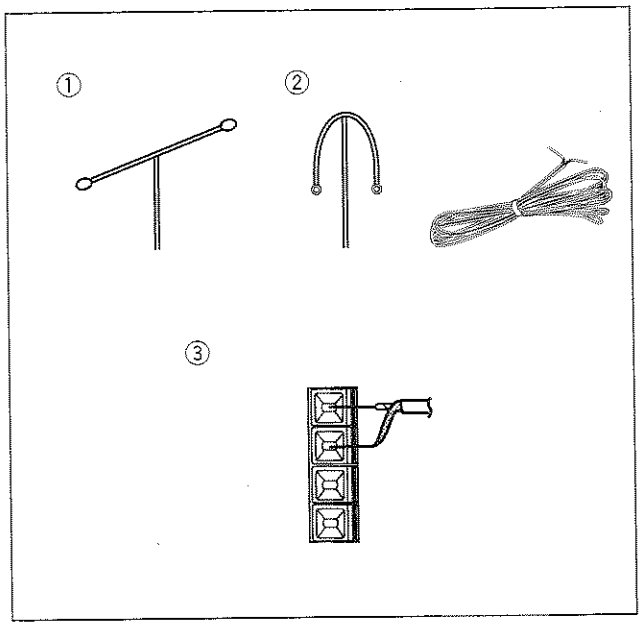


① Turntable (PL-J210 or other turntable)
When using a record player other than the PL-J210, connect the ground wire as shown in illustration Ⓐ.
② RF modulator JA-RF3L (option)
③ TV monitor equipped with antenna jack only.
④ TV monitor equipped with VIDEO IN jacks.
⑤ Video equipment
⑥ VCR
⑦ DAT
⑧ Tuner amplifier

CAUTION

- *With systems combined with a CD player, the VIDEO IN jack is not used.*
- *If the TV monitor's video output is connected to the tuner amplifier's VIDEO IN jack, oscillation may occur depending on the TV monitor. Disconnect if this occurs.*

ANTENNA CONNECTIONS



Radio reception is not possible unless the antenna is properly connected.

The strength of broadcast signals vary from one area to another. Signal propagation is especially poor in metropolitan areas, where there are many tall buildings, and in mountainous areas. Proper antenna installation is vital to good reception.

FM ANTENNA

FM Antenna Attachment

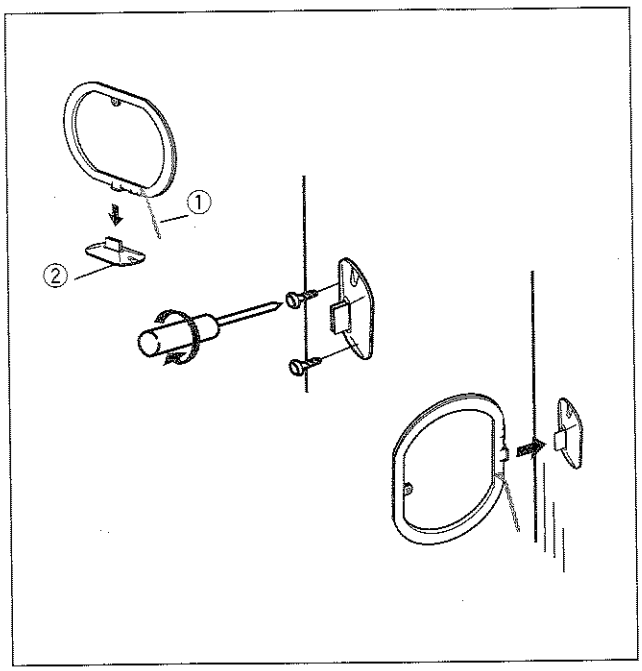
Connect the accessory FM T-type antenna to the FM terminals. Stretch the antenna out to its full length, and affix it to a wall, etc.

① Correct ② Wrong

External FM antenna installation

Use an external antenna when the signals from the station are weak and cannot be picked up by the accessory FM T-type antenna, or when the sound heard is accompanied by too much noise.

Connect as in figure ③ if using a 75 Ω coaxial cable.



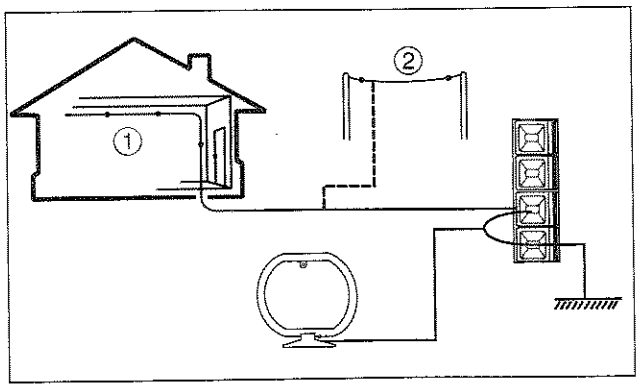
AM ANTENNA

The AM loop antenna supplied with the tuner should be connected to the AM antenna terminals. The antenna should be placed at a distance from the tuner, and should not be allowed to touch metallic objects. Avoid placing it near CD players, personal computers, television sets, and other devices generating radio frequencies.

Setting Up the AM Antenna

- Insert the clip on the bottom of the antenna into the groove on the leg.
- Place the antenna on a level surface and rotate it to locate the orientation that yields the best reception.
- To permanently fix the antenna, screw the leg to a wall or something similar before assembling (fixing the antenna in the direction that gives the best reception).

① lead wire
② leg



External AM antenna

① Indoor AM antenna

Use a vinyl-coated wire (5 to 6 meters long). Secure one end to the AM terminal and the other end to a wall or other high location.

② Outdoor AM antenna

If reception is still poor even when a lead antenna has been stretched out indoors, stretch out a vinyl-coated wire and secure it outdoors.

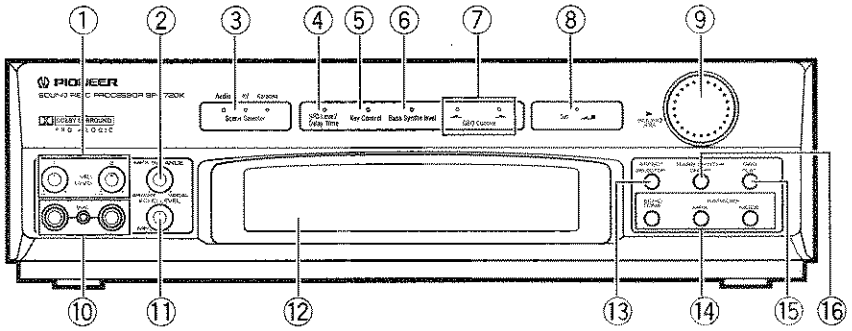
NOTE:

Do not detach the AM loop antenna when using the external AM antenna.

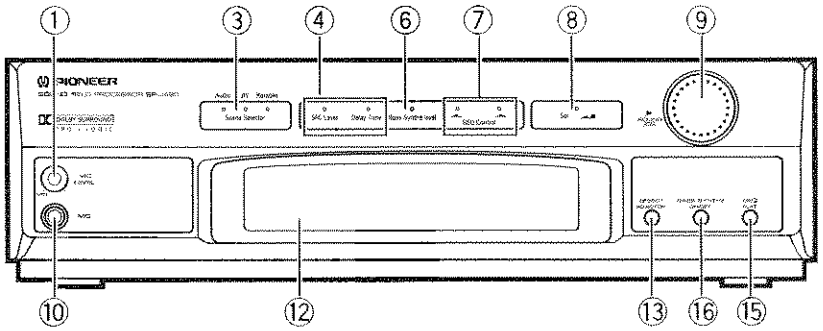
FRONT PANEL FACILITIES

This unit features an "illumination guide function" which uses flashing indicators to show which controls should be manipulated next.

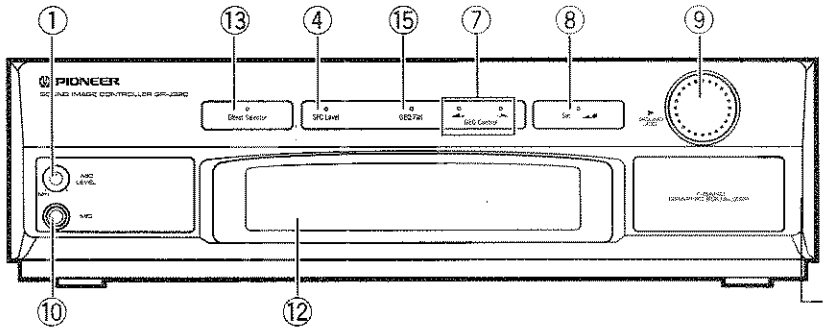
[SP-J720K]



[SP-J420]



[GR-J320]



SOUND FIELD PROCESSOR: SP-J720K/SP-J420 SOUND IMAGE CONTROLLER: GR-J320

① MIC LEVEL controls

Used for adjusting the volume of microphone.

② MPX BALANCE control (SP-J720K only)

Used for adjusting the sound balance when the KARAOKE MPX button is set to MPX or HiFi MPX. Rotating the dial to the KARAOKE side de-emphasizes the playback vocal frequencies, thus producing sound suitable for karaoke-type sing-along; turning the dial to the VOCAL side restores the playback sound with its original vocals.

NOTE:

The MPX BALANCE control does not operate when the Scene Selector button is set to any position other than KARAOKE, or when the KARAOKE MPX button is set to STEREO.

③ Scene Selector button/indicator (SP-J720K and SP-J420 only)

Each time this button is pressed, the scene changes as follows:

→ **Audio scene**: for audio playback
↓
AV scene: for audio and video playback
↓
Karaoke scene: for karaoke sing-along

Set this selector in accordance with your purpose.

④ SFC Level/Delay Time button/indicator

SFC Level: Set to ON to adjust the sound field control level.

Delay Time (except GR-J320): Set to ON to adjust the DOLBY PRO LOGIC SURROUND delay time.

⑤ Key Control button/indicator (SP-J720K only)

When this button is set to ON with the Scene Selector button set to KARAOKE, the pitch of the musical accompaniment can be modified to suit your own vocal range.

⑥ **Bass Synthe Level button/indicator (SP-J720K and SP-J420 only)**
Set to ON to adjust the bass synthe level.

⑦ **GEQ Control buttons/indicator**
Use to select frequencies to be boosted or attenuated with the graphic equalizer.

⑧ **Set button**
Use when adjusting the sound effect and tone.

⑨ **SOUND JOG dial**
Use when adjusting the sound effect and tone.

⑩ **MIC (microphone) jack(s)**
This standard jack can be used for connecting a microphone.
MC jack (SP-J720K only): When using a microphone equipped with a key controller, the microphone is connected to the key control jack.

⑪ **ECHO LEVEL control (SP-J720K only)**
This function operates only when the Scene Selector button is set to the KARAOKE position.
After using the ECHO TONE button to select the echo mode, this dial can be used to vary the amount of echo applied.

⑫ **Display section (see page 32).**

⑬ **EFFECT SELECTOR button**
[SP-J720K or SP-J420]
Used to select a desired sound field in correspondence to the scene selected with the Scene Selector button ③.
Each time the button is pressed, the sound field changes as follows, in accordance with the "scene" chosen:

Audio scene:
→ DISCO → HALL → STADIUM → OFF →

AV scene:
→ DOLBY PRO LOGIC SURROUND → DOLBY 3CH LOGIC → OFF ← MOVIE ←

Karaoke scene:
→ HALL → STADIUM → STAGE → OFF →

[GR-J320]
Used to select the kind of desired sound field.
Each time the button is pressed, the sound field changes as follows.
→ DISCO → HALL → STADIUM → OFF →

⑭ **KARAOKE selector buttons (SP-J720K only)**
This function operates only when the Scene Selector button is set to the KARAOKE position.

ECHO TONE: Each time this button is pressed, the echo mode changes as follows:
Pops ↔ Ballad

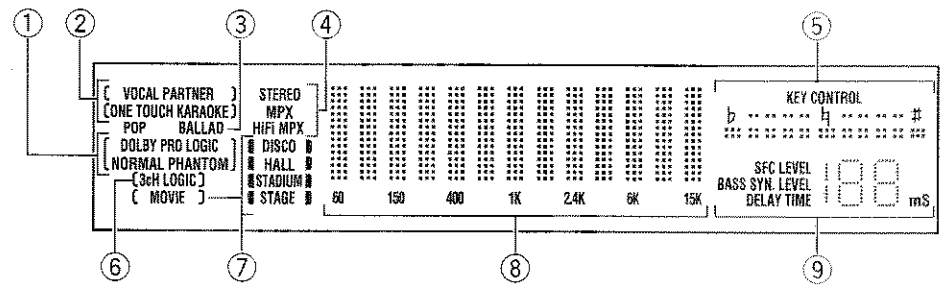
MPX: Changes the audio mode as follows:
→ Stereo → MPX → HiFi MPX →

- This function cannot be set to stereo when using multiplex discs.
- HiFi MPX can be set only when using digital multiplex multi-audio discs.

MODE: Changes the mode as follows:
→ One-Touch KARAOKE → Vocal Partner → OFF →

⑮ **GEQ FLAT button/indicator**
When this button is pressed, the graphic equalizer tone patterns are reset to their flat (normal) position.

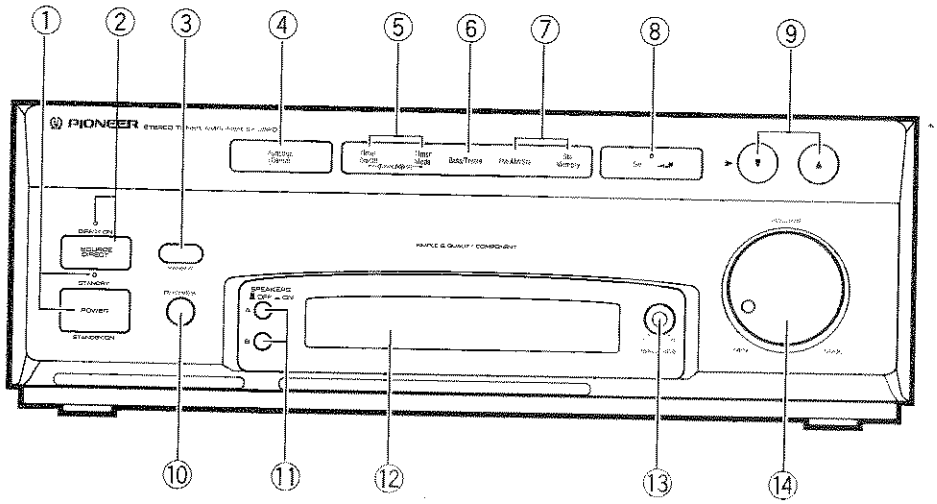
⑯ **BASS SYNTHE ON/OFF button (SP-J720K and SP-J420 only)**
Use to switch the bass emphasis circuit ON and OFF.



Display section

① Lights when DOLBY PRO LOGIC SURROUND is ON. The lamp for the type of surround (NORMAL or PHANTOM) also lights as appropriate (on SP-J720K and SP-J420 only).
② Lights in accordance with setting of KARAOKE MODE button (SP-J720K only).
③ Lights in accordance with the setting of the ECHO TONE button (SP-J720K only).
④ Lights in accordance with the setting of the KARAOKE MPX button (SP-J720K only).
⑤ Displays key-control status (SP-J720K).
⑥ When DOLBY 3CH Logic is ON, displays ( ).
⑦ Indicates selected SFC with ◖◗ (or ( )) display.
⑧ Displays spectrum analyzer patterns and operation messages.
⑨ Displays the SFC level. With the SP-J720K and SP-J420, it also displays the Bass Synthe level and Delay Time.

This unit features an "illumination guide function" which uses flashing indicators to show which controls should be manipulated next.



* The model shown in the illustration is the SX-J720.

TUNER AMPLIFIER: SX-J720/SX-J420/SX-J320

① POWER STANDBY/ON switch/STANDBY indicator

This is the switch for electric power.

ON: When set to the ON position, power is supplied and the unit becomes operational.

STANDBY: When set to the STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.
When only the time is indicated in the display section, the unit is in STANDBY.

② SOURCE DIRECT button/DIRECT ON indicator

When this button is pressed ON, the indicator lights, and input sources are played back without passing through the sound field processor or sound image controller (only the spectrum analyzer display lights).

③ REMOTE SENSOR

④ Function (Demo) button

Each time the Function (Demo) button is pressed, the amplifier function changes in the following order:

[SX-J720, SX-J420]

→ PHONO → TUNER → TAPE → DAT →
AUX ← VIDEO ← CD.LD ←
(CD)

[SX-J320]

→ PHONO → TUNER → TAPE → DAT.LD →
AUX ← VIDEO ← CD ←

If this is pressed from power off, it goes into demonstration mode.

⑤ Timer control buttons

Timer On/Off: Used to activate timer operation at the time set. Each time the button is pressed, the operation changes as follows:

→ REC → WAKE-UP →
OFF ←

Timer Mode: Used when setting the time on the timer; when the button is pressed, the function changes in the following order:

→ REC → WAKE-UP1 →
OFF ← WAKE-UP2 ←

Also, the clock adjustment mode can be selected by pressing the On/Off and Mode buttons simultaneously.

⑥ Sleep button

Use with sleep timer.

⑦ Tuner control buttons

FM/AM/Sta: When this button is pressed, the reception band function changes in the following order:

→ FM broadcasts → AM broadcasts →
Sta (station mode) ←

Sta Memory: Used when recording broadcast stations in the station memory. When the button is pressed, the function changes in the following order:

→ MEMORY FM? (or AM?) →
OFF ← MEMORY AUTO? ←

⑧ Set button

Used when setting the timer, and for operating the tuner's station memory.

⑨ Up-down buttons

Used when setting the timer, and when performing station tuning and memory operations.

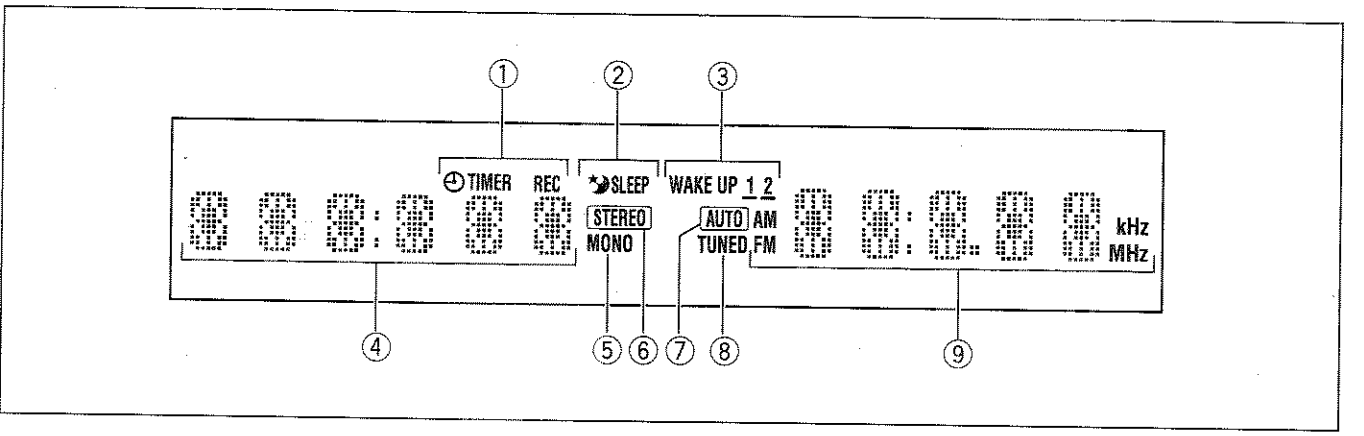
⑩ **PHONES jack**
For stereo headphones.
NOTE:
There is no output from the speakers when headphones are plugged into PHONES jack.

⑪ **SPEAKERS buttons (SX-J720 only)**
Speakers connected to the rear panel SPEAKERS A, B terminals can be switched ON/OFF independently.
NOTE:
When the speaker system is connected to only one speaker terminal (A or B) and both A and B buttons are ON, there will be no sound. Turn ON only the selector to which the speaker system is connected.

⑫ **Display section**

⑬ **BALANCE control (SX-J720 and SX-J420 only)**
Use to adjust front left and right speaker balance.

⑭ **VOLUME control**



Display Section

① **TIMER REC indicator**
Lights during recording timer setting.

② **SLEEP indicator**
Lights when the sleep timer is ON.

③ **WAKE UP 1, 2 indicator**
Lights to indicate the selected timer during wake up timer setting.

④ Displays station frequencies, time, and operating status.

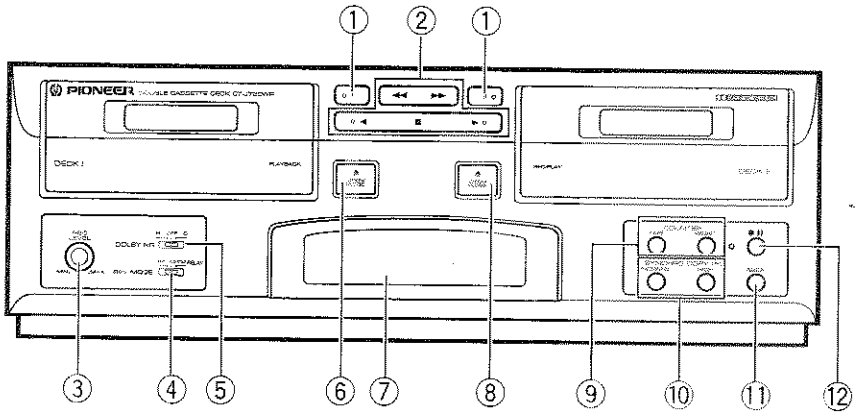
⑤ **MONO indicator**
Lights when the remote control FM MONO button is ON during stereo FM broadcast reception.

⑥ **STEREO indicator**
Lights during FM stereo broadcast reception.

⑦ **AUTO indicator**
Lights during automatic tuning.

⑧ **TUNED indicator**
Lights when a broadcast station is received.

⑨ Displays station frequencies and operating status.



* Illustration shows CT-J720WR.

DOUBLE CASSETTE DECK: CT-J720WR/CT-J320WR

① Deck I/II selector button/indicator
Use to select the deck to use (I or II). The indicator lights to show the deck which has been selected.

② Deck I/II operation buttons
- ► (play): For playing back a tape in the forward mode.
- ◄ (play): For playing back a tape in the reverse mode.
- ■ (stop): For stopping the tape.
- ►► (fast): Fast forward in forward mode, rewind in reverse mode. Music search (MS) starts if this is pressed during playback.
- ◄◄ (fast): Rewind in forward mode, fast forward in reverse mode. Music search (MS) starts if this is pressed during playback.

③ REC LEVEL control (CT-J720WR only)
Use to adjust the recording level. It adjusts the input signal level.

④ REV (reverse) MODE switch
Use this to select tape travel direction during play and record.
- ⇀: One-sided play and record.
- ⇁: This enables auto reverse recording and auto reverse play. If you start with the tape running in reverse, only reverse play and recording are possible.
- ↻ (RELAY): This enables auto reverse recording and auto repeat playback. (See page 70.)
  The tape does not reverse if recording starts from the (◄) direction.
  Select this position for DECK I and II relay play.

⑤ DOLBY* NR switch
Set this switch to B or C for recording with the built-in Dolby Noise Reduction system and for playback of tapes which have been recorded using the Dolby Noise Reduction system. For other tapes, set the DOLBY NR switch to OFF.

NOTE:
When playing back DOLBY NR-encoded tapes, always set this switch to the same position (B-type or C-type) used for recording.

[CT-J720WR]

*
- *Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.*
- *"DOLBY", the double-D symbol ⧈ and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.*

[CT-J320WR]

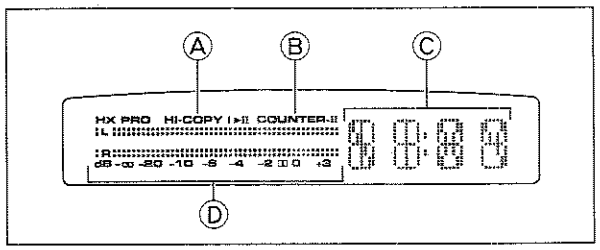
*
- *Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.*
- *"DOLBY" and the double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.*

⑥ [CT-J320WR]
Deck I EJECT ⏏ button
Press to open the cassette door.

[CT-J720WR]
Deck I OPEN/CLOSE ⏏ button
Press to open/close the cassette door.

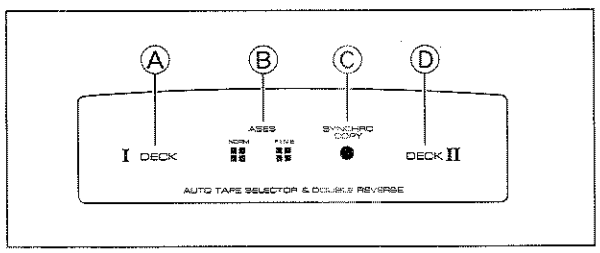
NOTE:
This button functions only when the power is turned on.

⑦ Display section
[CT-J720WR]



Ⓐ Lights during tape copy.
Ⓑ Indicates the deck (I or II) displaying counter indications.
Ⓒ Tape counter or time counter indication of elapsed tape time. During Music search operation, it indicates the number of tracks skipped. Also shows "ASES" and other indications.
Ⓓ Level meter
The ▯▯ mark displayed on the level meter is the Dolby NR system standard level. Indicates pattern during "ASES", etc.

[CT-J320WR]



Ⓐ Lights when deck I is operating.
Ⓑ Lights during ASES MODE.
Ⓒ Lights during tape copy.
Ⓓ Lights when deck II is operating.

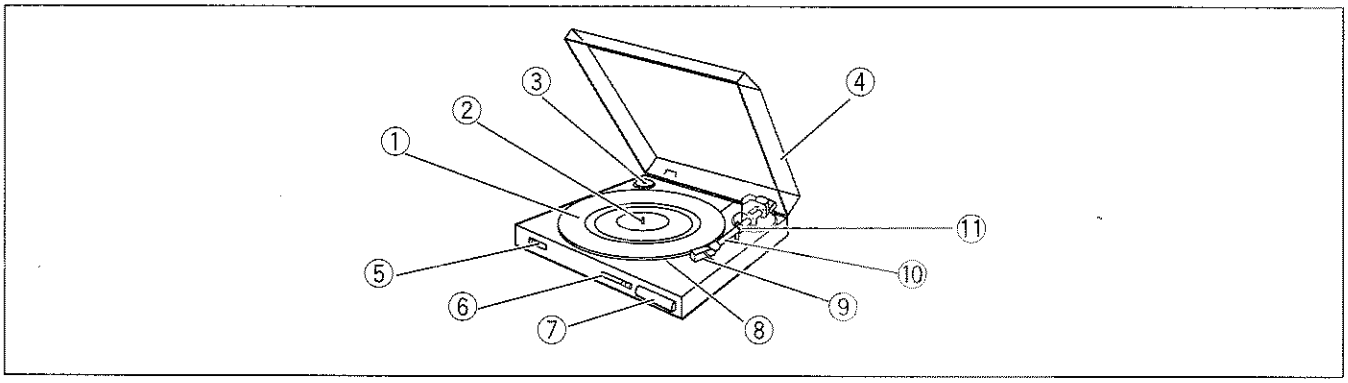
⑧ [CT-J320WR] Deck II EJECT ⏏ button
[CT-J720WR] Deck II OPEN/CLOSE ⏏ button

⑨ COUNTER buttons (CT-J720WR only)
TIME: Use this to switch between tape counter number display and display of elapsed time.
The TIME counter operates only during playback and recording.
RESET: Use this to reset the tape counter display to 0000.

⑩ SYNCHRO COPY I ► II buttons
Used for tape copying.
NORMAL: Copying from the deck I tape to the deck II tape at normal speed.
HIGH: Copying at about twice normal tape speed. (Copies can be made in about half the NORMAL time.)

⑪ ASES button
This can be used when recording from a PD-J920M CD player or CLD-J720 CD CDV LD player. The A.S.E.S. (Auto Synchro Editing System) function automatically edits when recording from a CD to a tape.

⑫ Recording pause button/indicator (●II)
When this button is pressed, the unit enters the recording pause (standby) mode, and the corresponding indicator lights. At the same time, the play button's indicator begins flashing.



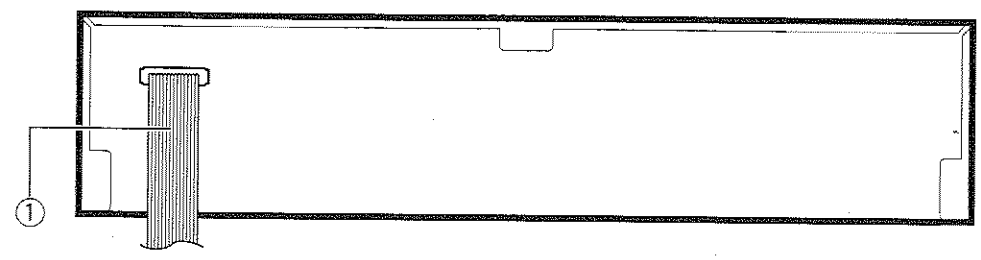
STEREO TURNTABLE: PL-J210

① **Platter mat**
② **Platter spindle**
③ **EP adapter**
Place over the spindle to play 45 rpm singles.
④ **Dust cover**
⑤ **SPEED switch**
Set this switch in accordance with the speed of the record.
33: For 33-1/3 rpm records.
45: For 45 rpm records.
⑥ **ARM ELEVATION switch**
- To suspend record play temporarily.
- For changing the tracks during actual play.

[UP]: The tonearm rises (the stylus moves away from the record.)
[DOWN]: The tonearm descends (the stylus is lowered onto the record.)

⑦ **STOP button (■)**
Press this switch when stopping play.
⑧ **Platter**
⑨ **Cartridge**
⑩ **Tonearm**
⑪ **Armrest**

REAR PANEL FACILITIES

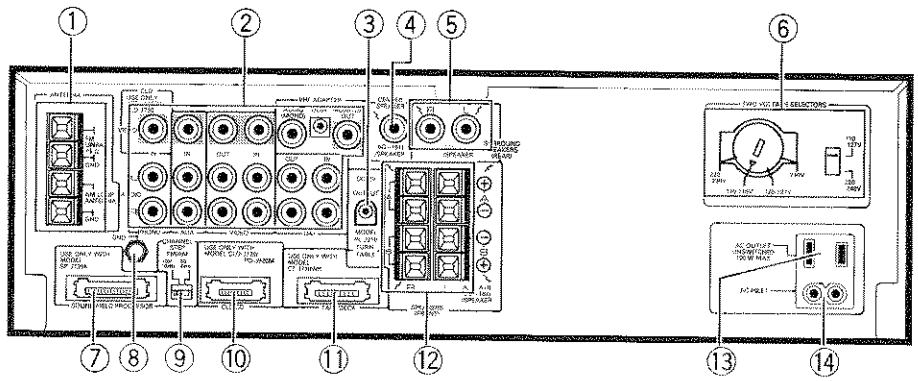


SOUND FIELD PROCESSOR: SP-J720K/SP-J420
SOUND IMAGE CONTROLLER: GR-J320

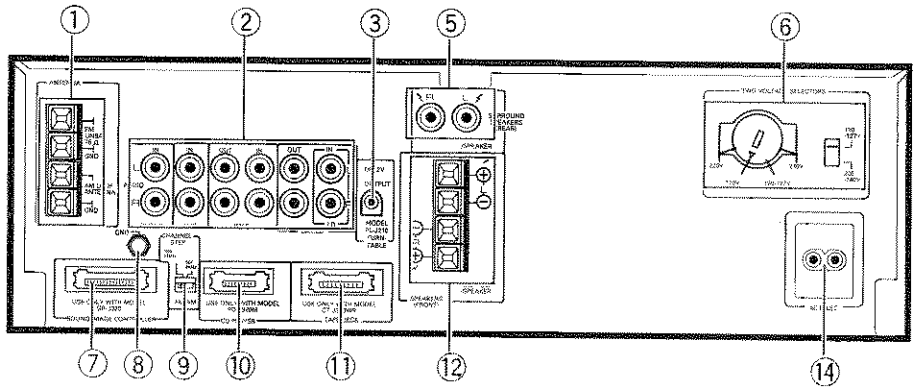
① System cable
Connect to the SOUND FIELD PROCESSOR jack (SX-J720/SX-J420) or SOUND IMAGE CONTROLLER jack (SX-J320) of the tuner amplifier.

[SX-J720/SX-J420]

* Illustration shows model SX-J720
* La ilustración muestra el modelo SX-J720
* 右圖所示的型號爲SX-J720型。



[SX-J320]



TUNER AMPLIFIER: SX-J720/SX-J420/SX-J320

① FM/AM ANTENNA terminals
Antennas must be connected to these terminals: otherwise you will not be able to receive stations. See page 26 for details on ANTENNA CONNECTIONS.

② Input/Output jacks

[SX-J320]

PHONO IN: Connect the output cord of the turntable to these jacks.

AUX IN: Enables connection to the output jacks of audio components such as a second CD player.

VIDEO:

IN: Connect to the audio output jacks of VCR.

OUT: Connect to the audio input jacks of VCR.

DAT/LD:

IN: Connect to an LD player's audio output jacks. With a digital audio tape deck, connect to the analog audio output jacks.

OUT: Connect to the analog audio input jacks of the digital audio tape deck.

[SX-J720/SX-J420]

VIDEO IN: On the SX-J720, connect to the video output jack of the CLD-J720 CD CDV LD player.

PHONO IN: Connect the output cord of the turntable to these jacks.

AUX IN: Enables connection to the video and audio output jacks of video components such as an LD player.

VIDEO:

IN: Connect to VCR video and audio output jacks.

OUT: Connect to VCR video and audio input jacks.

DAT:

IN: Connect to the analog audio output jacks of the digital audio tape deck.

OUT: Connect to the analog audio input jacks of the digital audio tape deck.

VHF ADAPTER jacks:

Connect to the VIDEO input jacks of your television or video deck. If your television has antenna input terminals only, the RF modulator JA-RF3L (sold separately) can be used to connect here.

③ TURNTABLE (DC 12 V OUTPUT) jack

This jack supplies power to turntable PL-J210.

④ CENTER SPEAKER terminal (SX-J720, SX-J420 only)

Connect to the center speaker.

NOTE:

Connect a speaker system having a nominal impedance ranging from 8 Ω to 16 Ω or more.

⑤ SURROUND SPEAKERS jacks

Connect to the Surround speaker system.

NOTE:

Connect a speaker system having a nominal impedance of 16 Ω or more.

⑥ TWO VOLTAGE SELECTORS

See page 1.

⑦ SOUND FIELD PROCESSOR jack (SX-J720, SX-J420 only)

Connect the sound field processor (SP-J720K/SP-J420) cable here.

SOUND IMAGE CONTROLLER jack (SX-J320 only)

Connect the sound image controller (GR-J320) cable here.

⑧ Ground terminal (GND)

Connect the ground lead of the turntable here (except for PL-J210).

⑨ CHANNEL STEP FM/AM switch

See page 2.

⑩ **CLD/CD jack**
Connect the compact disc player (PD-J920M) or CD CDV LD player (CLD-J720) system cable here.

⑪ **TAPE DECK jack**
Connect the cassette deck (CT-J720WR/CT-J320WR) system cable here.

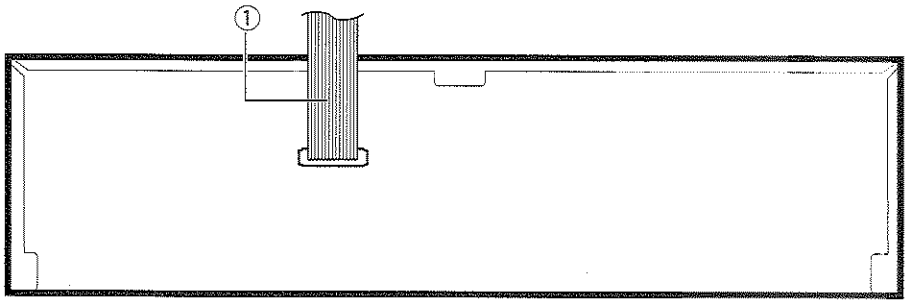
⑫ **SPEAKERS terminals**
A: Connect to a first set of speakers.
B: Connect to a second set of speakers.
The SX-J420 and SX-J320 are furnished with only one set of speaker terminals.

NOTE:
Connect a speaker system having a nominal impedance ranging from 8 Ω to 16 Ω.

⑬ **AC OUTLET (SX-J720, SX-J420 only) UNSWITCHED 100 W MAX**
Power supplied through this outlet is turned on and off by the tuner amplifier's POWER switch. Total electrical power consumption of connected equipment should not exceed 100 W. CLD-J720 CD CDV LD player cord can be connected.

NOTE:
Do not connect appliances with high power consumption such as heaters, irons, monitors, or television sets to the AC OUTLET in order to avoid overheating or fire risk.

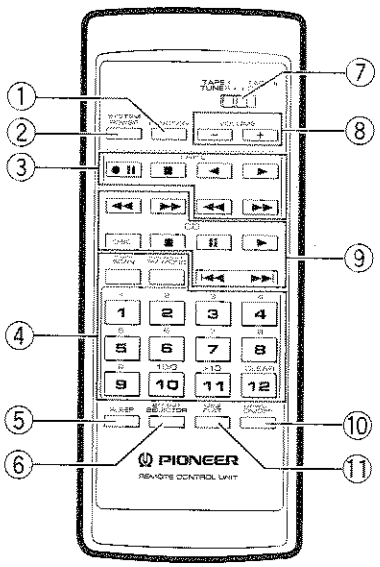
⑭ **AC INLET**
Connect the accessory power cord to a household power outlet.



DOUBLE CASSETTE DECK: CT-J720WR/CT-J320WR

① **System cable**
Connect to the TAPE DECK jack of the tuner amplifier.

REMOTE CONTROL UNIT



[SX-J320]

① FUNCTION buttons

Each time you press this button, the tuner amplifier function (input selector) changes.

The tuner amplifier function (input selector) automatically switches to the music source being operated when you press the CD playback (►), cassette deck playback (◄, ►), or tuner station controls.

② SYSTEM POWER button

③ TAPE (I, II) operation buttons

■	:Stop
◄◄, ►►	:Fast forward/reverse
◄, ►	:Playback
●II (rec pause)	:Press to set to recording pause (standby) mode (functions only with Deck II).

- Before pressing the TAPE operating buttons, set the TAPE I/ TAPE II selector switch to the deck you wish to use.

④ CD/TUNER operation buttons

When the TUNER/CD switch ⑦ is on the TUNER side

SCAN:
Press to perform the tuner memory scan operation.

FM MONO:
Switches between STEREO and MONO reproduction during FM stereo reception.

1 – 12 buttons:
Use to recall FM and AM stations memorized in station memory.

When the TUNER/CD switch ⑦ is on the CD side

PGM:
Use this when you want to enjoy CD programmed play.

RANDOM:
Use this to enjoy random CD play.

1 – 10/0, > 10:
These buttons function as CD track number buttons.

CLEAR:
Use to clear programs.

⑤ SLEEP button

Sets the sleep timer. Each time you press this button, the setting changes as shown here. The current setting is shown on the tuner display.

Power turns off when your set time has elapsed (see page 100).

→ 90 (Approx. 90 minutes) → 60 (Approx. 60 minutes) → 30 (Approx. 30 minutes) → (AUTO: Only during CD playback, or deck recording/playback). ← OFF ←

If you press the SLEEP button again during SLEEP operation, the timer will operate from the new setting displayed.

⑥ EFFECT SELECTOR button

Press to select the sound field.

⑦ **TAPE I/TAPE II, TUNER/CD selector switch**
When this switch is set to the TAPE I/TUNER side, the TAPE operation buttons ③ can be used to operate Deck I, and the CD/TUNER buttons ④ can be used to operate the tuner.
When the switch is set to the TAPE II/CD side, the TAPE operation buttons ③ can be used to operate Deck II, and the CD/TUNER buttons ④ can be used to operate the CD player.

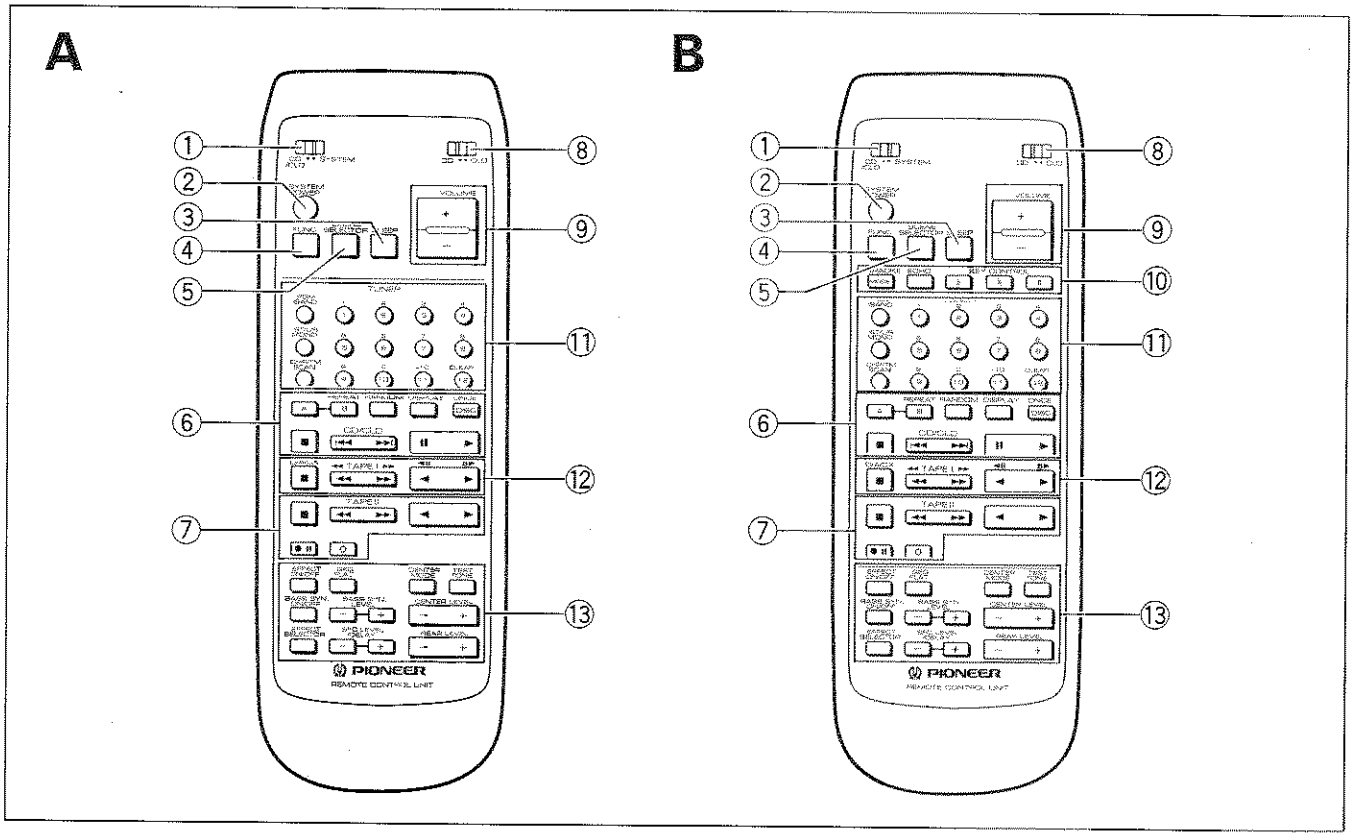
⑧ **VOLUME + (up)/– (down) button(s)**

⑨ **CD player operation buttons**

◀◀, ▶▶: Manual search
|◀◀, ▶▶|: Track search
■: Stop
II: Pause
▶: Play
DISC: DISC selection (functions only with multi-play CD player).

⑩ **DIRECT ON/OFF button**
Press this button when you wish to listen to source sounds directly, without their being passed through the sound field processor (sound image controller). When set to ON, only the spectrum analyzer lamp lights in the sound field processor (or sound image controller) display.

⑪ **GEQ FLAT button**
When this button is pressed the graphic equalizer tonal patterns are all returned to their flat (normal) positions.



A: [SX-J420]
B: [SX-J720]

① **CD/CLD/SYSTEM switch**
Set this switch to the CD/CLD side when you wish to operate the CD player or CD CDV LD player. Set the switch to the SYSTEM side when you wish to operate any other components.

② **SYSTEM POWER button**

③ **SLEEP button**
Sets the sleep timer. Each time you press this button, the setting changes as shown here. The current setting is shown on the tuner display.
Power turns off when your set time has elapsed (see page 102).

→ 90 → 60 → 30 →
(Approx. 90 minutes) (Approx. 60 minutes) (Approx. 30 minutes)
(AUTO: during playback of CD, CDV, or LD, or deck recording/playback) ← 0 (OFF) ←

If you press the SLEEP button again during SLEEP operation, the timer will operate from the new setting displayed.

④ **FUNC. (function) button**
Each time you press this button, the tuner amplifier function (input selector) changes.
The tuner amplifier function (input selector) automatically switches to the music source being operated when you press the CD playback (►), cassette deck playback (◄, ►), or tuner station controls.

⑤ **SCENE SELECTOR button**
Operates the same as the Scene Selector button on the sound field processor.

⑥ **CD/CLD operation buttons**

When the CD/CLD switch ⑧ is on the CD side.

REPEAT:
Use for Repeat playback.
RANDOM:
Use this to enjoy random CD play.
DISPLAY:
Use to switch CD player display.
DISC:
Disc selection.
■: Stop
I◄◄, ►►I: Track search
II: Pause
►: Play

When the CD/CLD switch ⑧ is on the CLD side.

REPEAT – A, B:
Use for Repeat playback.
RANDOM:
Starts Random playback.
DISPLAY:
Use to switch CD CDV LD player display.
ONCE:
Each time this button is pressed, the sound and image are returned to a point about five seconds earlier.
■: Stop
I◄◄, ►►I: Track/Chapter search
II: Pause
►: Play

⑦ **TAPE II operation buttons**
■: Stop
◄◄, ►►: Fast
◄, ►: Play back
●II **(rec pause):** When this button is pressed, the player enters the recording pause (standby) mode.
O **(mute):** Use for creating a blank during recording.

⑧ **CD/CLD switch**
Set this switch to the CD side when using the PD-J920M.
Set to the CLD side when using the CLD-J720.

⑨ **VOLUME + (up)/– (down) button**

⑩ **Karaoke operation buttons (SX-J720 only)**
KARAOKE MODE:
Operates the same as the KARAOKE MODE button on the sound field processor.
ECHO:
Operates the same as the ECHO TONE button on the sound field processor.
KEY CONTROL:
Use to change the key pitch of music playback.
♭: Lowers the pitch
♮: Returns pitch to normal
♯: Raises the pitch

⑪ CD/CLD/TUNER operation buttons

When the CD/CLD/SYSTEM switch ① is on the SYSTEM side.

Operation buttons can be used to operate the tuner.

BAND:
Switches between AM and FM broadcast bands.
MONO:
Switches between STEREO and MONO reproduction during FM stereo reception.
1 – 12 buttons:
Use to recall FM and AM stations memorized in station memory.
SCAN button:
Press to perform the tuner memory scan operation.

When the CD/CLD/SYSTEM switch ① is on the CD/CLD side.

Operation buttons can be used to operate the CD/CLD player.

PGM:
Use this when you want to enjoy CD/CDV/LD programed play.
ST/L/R:
Use to select the channel of a stereo disc, or the voice channel on a multiplex disc.
CHP/TM (CHAPTER/TIME):
Use for Chapter number search and Time number search.
0-9, +10:
These buttons function as track number buttons during CD/CDV play, or as chapter number buttons during LD play.
CLEAR:
Use to clear programs.

⑫ TAPE I/CLD operation buttons

When the CD/CLD/SYSTEM switch ① is on the SYSTEM side.

Buttons operate the TAPE I deck.

■: Stop
◄◄, ►►: Fast
◄, ►: Playback

When the CD/CLD/SYSTEM switch ① is on the CD/CLD side.

Buttons operate the CD/CLD player.

D/A/CX:
Switches between digital and analog audio. Use to switch CX ON/OFF.
◄◄, ►►: Manual search/Scan
◄II, II►: Still/Step

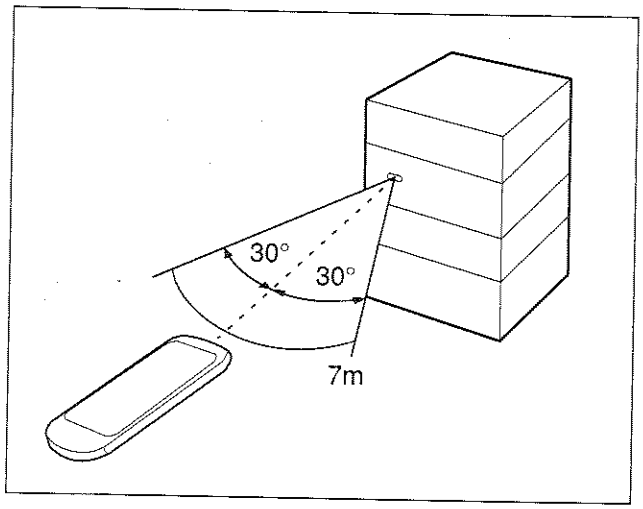
⑬ Sound field processor operation buttons

DIRECT ON/OFF:
Set this button to ON to listen to music sources directly, without their being passed through the sound field processor circuits. When set to ON, only the spectrum analyzer will light in the sound field processor display.
GEQ FLAT:
When this button is pressed, the graphic equalizer tonal patterns are all returned to their flat (normal) positions.
CENTER MODE:
Use to select the center mode when using DOLBY PRO LOGIC SURROUND.
The mode switches between NORMAL and PHANTOM each time you press it.
TEST TONE:
Used in conjunction with DOLBY PRO LOGIC or DOLBY 3CH LOGIC noise reduction.
Use to switch the test tone for level adjustment of each channel ON and OFF.
BASS SYN. (SYNTHE) ON/OFF:
Use to switch the bass emphasis circuit ON and OFF.
BASS SYN. (SYNTHE) LEVEL +, –:
When the BASS SYN. (SYNTHE) button is set to ON, the + and – buttons can be used to adjust the amount of bass emphasis.
CENTER LEVEL +, –:
Use to adjust center speaker level.
EFFECT SELECTOR:
Operates the same as the EFFECT SELECTOR button on the sound field processor.
SFC LEVEL/DELAY +, –:
Use to adjust the SFC level and delay time.
REAR LEVEL +, –:
Use to adjust surround (rear) speaker level.

REMOTE CONTROL UNIT

NOTE:

- *If the remote control unit will not be used for a long time (1 month or more), remove the batteries to avoid battery leakage. If fluid should ever leak from batteries, wipe away the fluid and then install new batteries.*
- *Do not put books etc. on top of the remote control unit. If buttons are continuously depressed, the batteries will run down.*
- *If the operating range decreases, the batteries have probably run down. Please replace with new batteries.*



RANGE OF REMOTE CONTROL

When the remote control unit is pointed at the remote sensor window on the tuner amplifier and one of the remote's buttons is pressed, the unit (except for PL-J210) can then be operated by remote control.

Distance: Within a range of approx. 7 meters from the remote sensor window on the tuner amplifier.

Angle: Within approx. 30 degrees from the center of the remote sensor window on the tuner amplifier.

Remote control will not be possible if there is an obstacle between the remote control unit itself and the remote sensor window on the tuner amplifier.

Performance of the remote control unit is adversely affected by strong fluorescent light. Keep such lights away, especially from the sensor window.

NOTE:

Operate after switching power ON to the tuner amplifier.

CONTROLADOR REMOTO

NOTAS:

- *Cuando no tenga la intención de utilizar el controlador remoto durante períodos prolongados (un mes o más), saque las pilas para evitar que produzcan daños debidos a fugas. Si se fuga el líquido de las pilas, frótelo e instale una pilas nuevas.*
- *No ponga libros, etc. sobre el controlador remoto. Si se presionan continuamente los botones, se gastarán las pilas.*
- *Si se reduce el margen de operación, significa que se están gastando las pilas. Reemplácelas por otras nuevas.*

ALCANCE DEL CONTROLADOR REMOTO

Cuando se señala el controlador remoto a la ventanilla del sensor remoto del amplificador con sintonizador y se presiona alguno de sus botones, la unidad (excepto la PL- J210) podrá operarse con control remoto.

Distancia: entro de un margen aproximado de 7 metros desde la ventanilla del sensor remoto del amplificador con sintonizador.

Ángulo: Dentro de aproximadamente 30 grados desde el centro de la ventanilla del sensor remoto del amplificador con sintonizador.

El control remoto no podrá efectuarse si hay un obstáculo entre el controlador remoto y la ventanilla del sensor remoto del amplificador con sintonizador.

El rendimiento del controlador remoto quedará adversamente afectado por fuertes luces fluorescentes. Mantenga apartadas estas luces, especialmente desde la ventanilla del sensor.

NOTA:

Opere después de haber conectado la alimentación del amplificador con sintonizador.

遙控器

注意：

- 如果長時間(一個月以上)不使用揚聲器，請取出電池以免電解液泄漏。萬一電解液泄漏，請擦試電解液，然後裝入新電池。
- 請勿在遙控器上置放書籍等。如果按鈕被連續按下，電池將會消耗。
- 如果可操作距離變短，可能電池耗盡。請更換新的電池。

遙控範圍

當遙控器指向調諧器放大器的遙控感應窗並按下任何其按鈕時，裝置(除PL-J210型)可以利用遙控器操作。

距離：從調諧器放大器的遙控感應窗離開約7米的範圍。

角度：從調諧器放大器的遙控感應窗中心左右30度的範圍。

如果遙控器與調諧器放大器的遙控感應窗之間有阻礙物，遙控器便不能操作。

強烈的熒光燈光線給遙控器的性能帶來不利的影響。特別要注意使遙控感應窗遠離這種光線。

注意：

接通調諧器放大器的電源後進行操作。

HOW TO HANDLE CASSETTE TAPES

Bear in mind the following points before loading cassette tapes.

Is the tape loose, or is some of the tape outside the cassette?

If some of the tape is projecting outside the cassette shell or if it is loose, it may not feed between the capstan and pinch roller.

This will prevent the tape from being transported or damage the tape itself. In cases like these, insert a pencil into the reel hole and take up the slack (Fig. A). Some cassette tapes come with a plastic or thick paper stopper which prevents tape slack. Remove this stopper when loading the tape and replace it after having used the cassette.

How can you prevent accidental erasure?

A cassette is provided with accidental erasure prevention tabs so that important recordings will not be erased accidentally. When the tab (Fig. B) on the cassette shell is broken out with the tip of a screwdriver, it will not be possible to activate the recording function even by pressing the recording (●II) button, so valuable recordings will not be erased in error.

To re-record on a cassette whose tabs have been broken out, simply stick a double layer of adhesive tape over the tab areas, as shown in Fig. C.

NOTE:

The accidental erasure prevention tabs are located at the top left on both sides A and B (1 and 2), so that material on each side can be prevented from being erased in error.

Tips on using cassette tapes

- Leader tape (which does not allow sound to be recorded over it) is provided at the beginning of a cassette tape. Start recording after allowing the tape to run for approx. 5 seconds so that the leader tape clears the recording head.
- Do not leave a cassette tape exposed to the environment. Store the cassette in its case so that dust and dirt do not adhere to the tape after use, and so that the tape is prevented from becoming slack.
  Choose a location which is not exposed to the effects of magnetism, dust, dirt and oil for storing the tapes.

- Do not use cassette tapes longer than C-90.
  Tapes longer than C-90 are quite thin and easily jam in the pinch roller and capstan and may also cause irregular winding. Do not use them in this unit. Use tapes of 90 minutes or less.

Fig. A

How to take up tape slack.

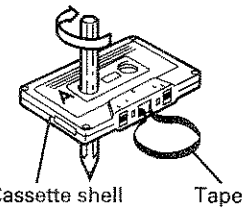


Fig. B

How to prevent already recorded tapes from being erased

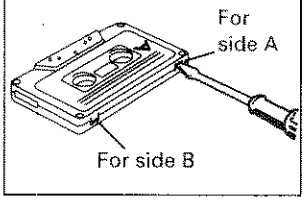
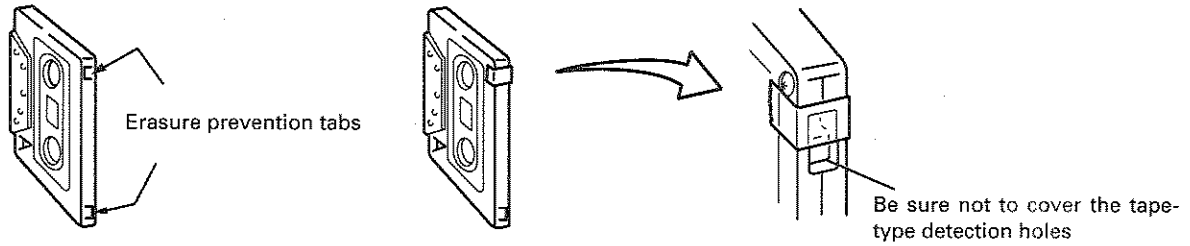
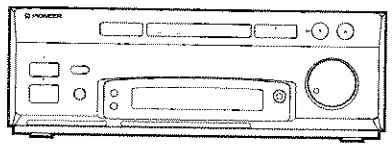


Fig. C

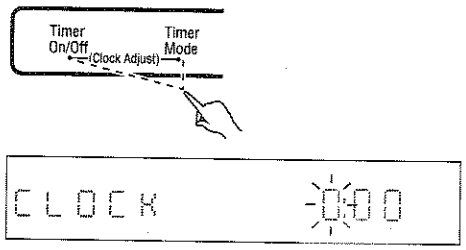
When you want to record again on a cassette with broken erasure prevention tabs, cover the tab sections with a double layer of adhesive tape.



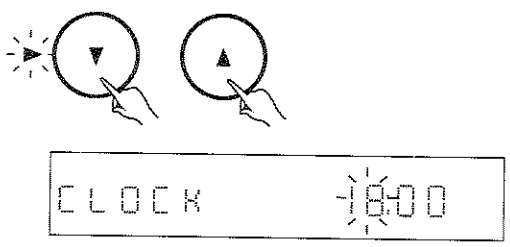
With TYPE II (HIGH/CrO_2) tape or TYPE IV (Metal) tape, be sure not to cover the tape-type detection holes. If they are covered, the auto tape selector function will not operate correctly. (In the case of the CT-J320WR, TYPE IV [metal] tapes can be played back, but cannot be recorded.)



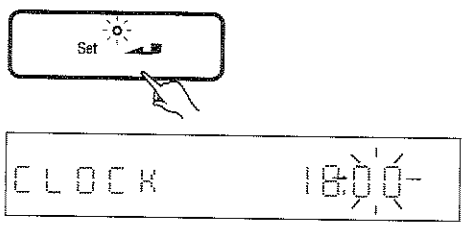
1



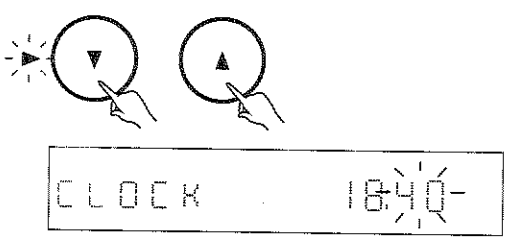
2



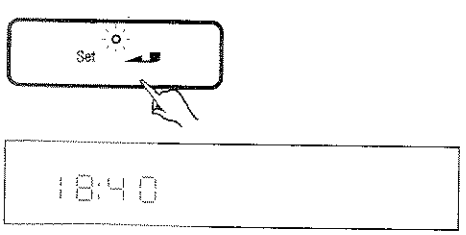
3



4



5



The [ ] mark in the illustration indicates remote control operation buttons.

SETTING THE CLOCK (Tuner amplifier operation)

This unit has a 24-hour clock display.

[Example] Setting the time to 18:40.

1. **Press the Timer On/Off button and Timer Mode button simultaneously.**
2. **Use the up ▲ and down ▼ buttons to set the hour.**
3. **Press Set button.**
4. **Use up ▲ and down ▼ buttons to set the minutes.**
5. **To assure precise adjustment, press the Set button at the exact instant the "00" seconds are reached for the minute set above.**

- After connecting to an AC outlet, be sure to set the present time. Timer playback and timer recording are not possible unless the time has been set.
- The time indication will appear as "-- -:- --" when the power is restored following a power failure, or if the power cord has been disconnected. Be sure to set the time again.

To turn on power:

1. **Set the tuner amplifier's POWER switch to ON.**
2. **Select a Function button (indicator lights in display section).**

AUTO FUNCTION

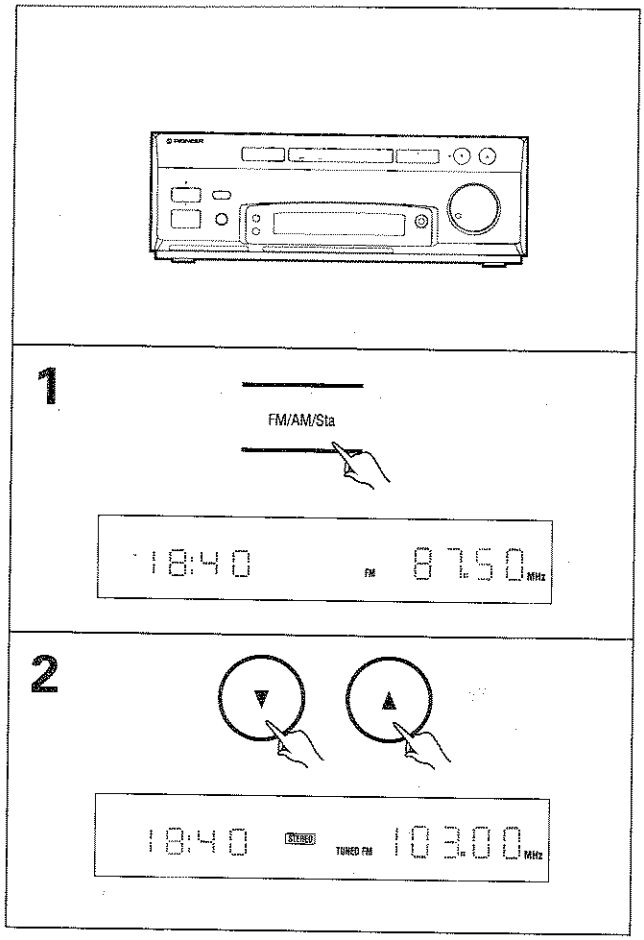
- This model is equipped with an "auto function" operation; when you press the appropriate button on the tuner amplifier to operate the CD or CD CDV LD player, cassette deck, or tuner, the function switches automatically. When using other components, use the function buttons to select the Function manually.
- Function cannot be switched during recording. (Auto function does not operate either.)

Adjusting volume level

- Adjust volume level with the VOLUME control.

When you have finished using this unit:

If you switch the tuner amplifier's POWER switch to STANDBY position, power to other components will also be switched off.



TUNER OPERATIONS

Tuning into stations

1. Select the desired broadcasting band (FM or AM) using FM/AM/Sta button.

Each time the button is pressed, the band changes as follows:

→ FM broadcast → AM broadcast →
Station Mode ←
(displays channels)

2. Press up ▲ or down ▼ button for higher or lower frequencies.

[Auto tuning]

Press up ▲ or down ▼ button until the frequency starts to change, then release it.

The tuner automatically searches for a broadcasting station, and stops when one is found, and the TUNED indicator lights up. To search for another station, press again.

- To interrupt auto tuning, press ▲ or ▼ button again.

NOTE:

When auto tuning is in use, reception may not be possible for distant stations or when signals are weak. At these times manual tuning is recommended.

[Manual tuning]

Press up ▲ or down ▼ button and release quickly.

The tuning frequency will change by one step each time the button is pressed. Press as many times as necessary to tune in the desired station. The TUNED indicator lights up when the station is tuned in best.

- If you keep the ▲ or ▼ button depressed after the frequency has begun to change, the reception frequency changes continuously, and stops when the button is released.

3. Adjust the VOLUME control on the tuner amplifier.

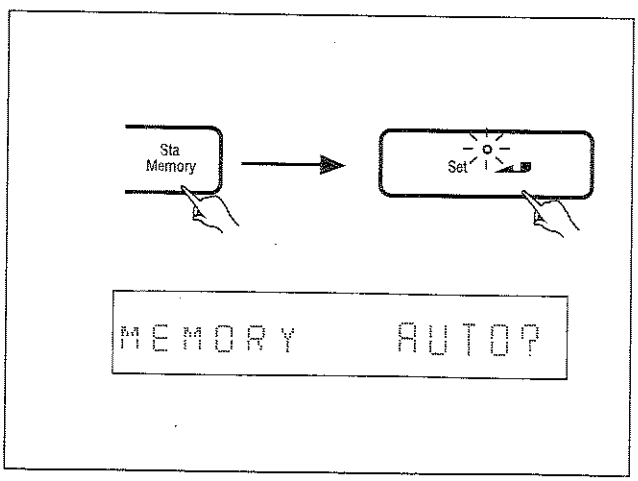
• STEREO indicator

When the FM MONO mode is in the off position (MONO indicator is out), the STEREO indicator lights during reception of an FM stereo broadcast.

• MONO indicator

If you are listening to an FM stereo broadcast a long way from the broadcast station, in an area where the broadcast signal is weak, or when there is a lot of noise, select FM MONO by pressing the FM MONO button on the remote control unit. You'll then be listening in mono, but it will be much clearer.

If reception is poor due to high levels of noise, try turning off the power of the CD player or CD CDV LD player. This may help reduce the levels of noise heard during tuner operation.



MEMORIZING STATIONS

Up to 36 FM/AM stations can be memorized.

[Auto preset]

This function lets you automatically store up to 36 FM and AM broadcast stations in channel memory.

1. Use the Station Memory button to select "MEMORY AUTO?".

Each time the button is pressed, the function changes in the following order:

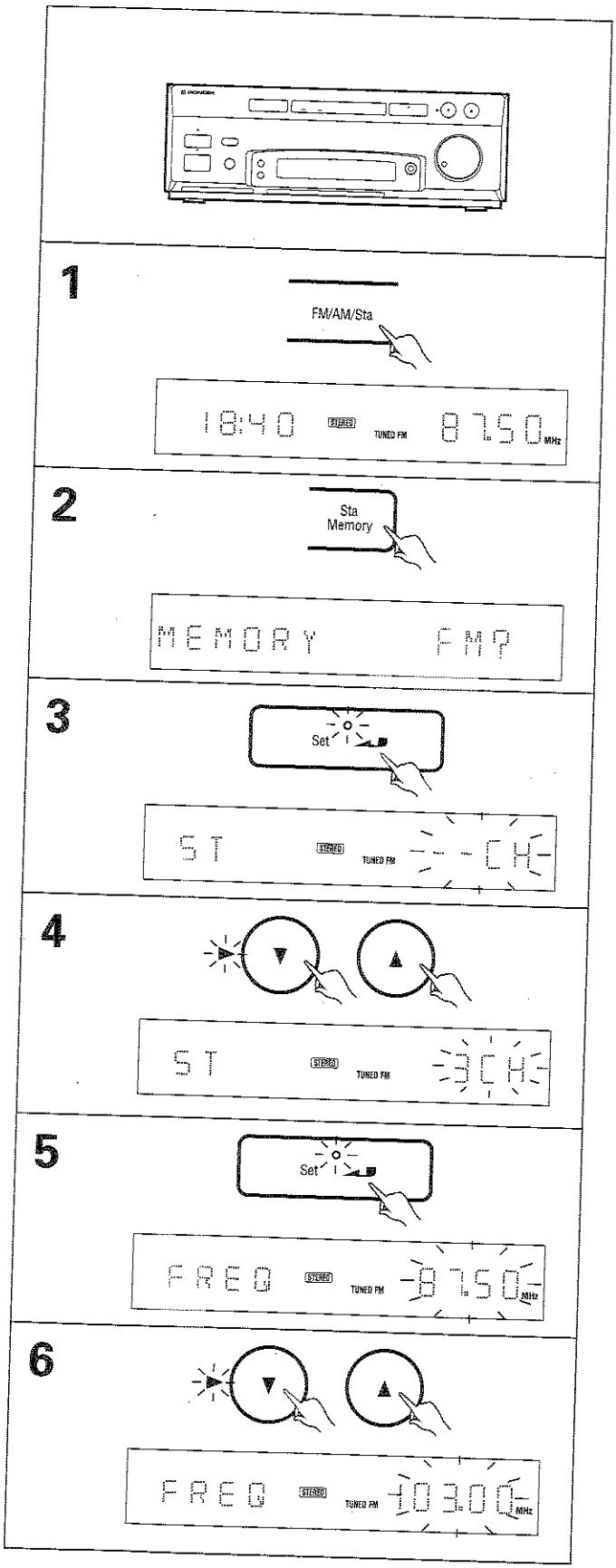
→ MEMORY FM? (or AM?) → MEMORY AUTO? →
OFF ←

2. Press the Set button.

The auto memory function begins.

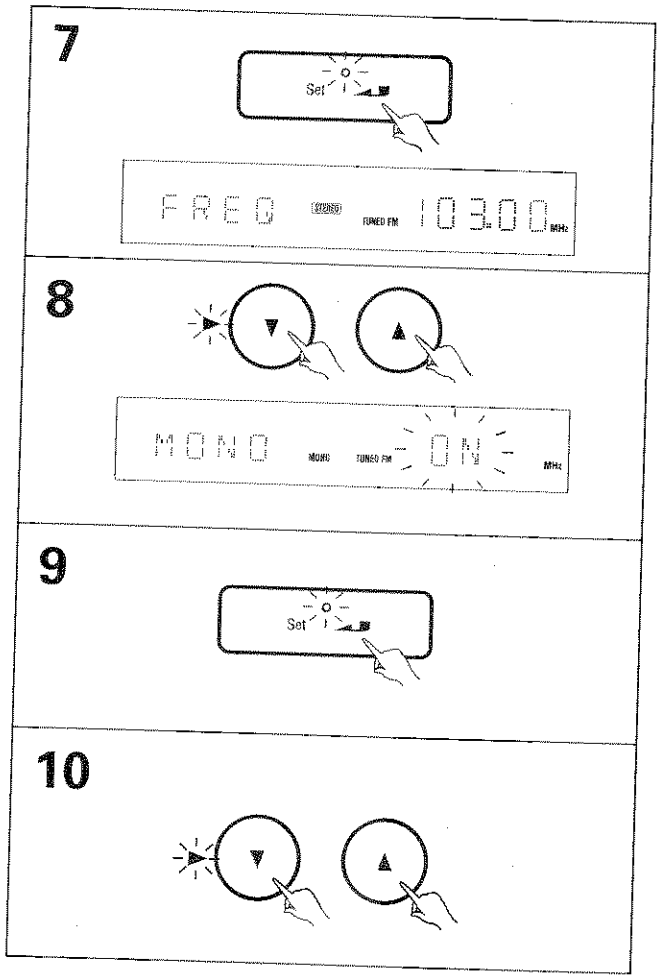
FM and AM stations are stored in channel memory in sequence when TUNED is displayed in the display section. Operation starts from the displayed frequency.

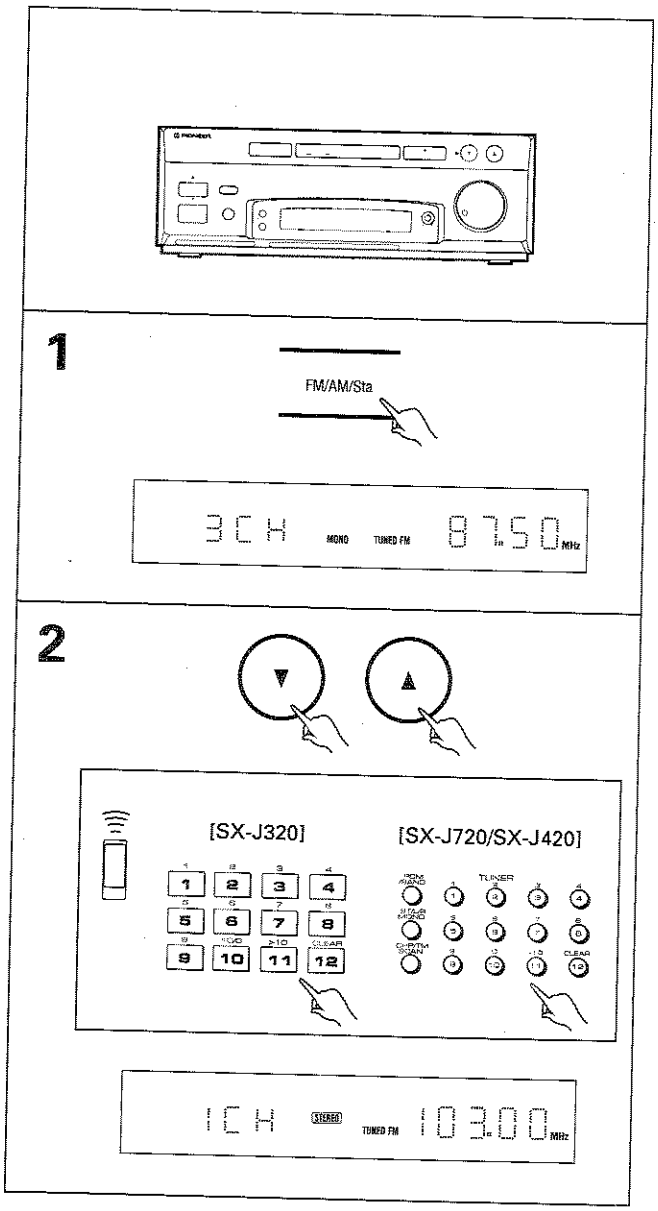
- If the Set button is not pressed within thirty seconds, the unit returns automatically to its initial condition.



[Manual preset]

1. **Select the desired band (FM or AM) with the FM/AM/Sta button.**
2. **Use the Station Memory button to select MEMORY FM? (or AM?).**
   Each time the button is pressed, the function changes in the following order:
   → MEMORY FM? (or AM?) → MEMORY AUTO? → OFF →
3. **Press the Set button.**
4. **Select the channel (station call no.) you want to memorize with the up ▲ or down ▼ buttons.**
5. **Press the Set button.**
6. **Use the up ▲ and down ▼ buttons to tune in the station you wish to store in memory.**
7. **Press the Set button.**
8. **For FM broadcasts, use the up ▲ and down ▼ buttons to set FM MONO as desired (ON or OFF).**
9. **Press the Set button.**
10. **When the up ▲ or down ▼ button is pressed, the unit's status returns to step 4, allowing you to store more stations in the memory. Press the Set button to complete the memory process.**
    - During memory operation, the channel and frequency display flash.





RECEPTION USING PRESET TUNING

1. **Switch to the station mode with the FM/AM/Sta button.**
   In the station mode, the station channels are displayed.
2. **Select the desired channel with the up ▲ or down ▼ buttons.**
   - When operating with the remote control unit, switch the CD/CLD/SYSTEM switch to the SYSTEM side (on the SX-J320, set the TUNER/CD switch to the TUNER side), and use the number buttons to select a channel. The channel changes each time a button is pressed.

1/⏲ 1/13/25	5/⏲ 5/17/29	9/⏲ 9/21/33
2/⏲ 2/14/26	6/⏲ 6/18/30	10/⏲ 10/22/34
3/⏲ 3/15/27	7/⏲ 7/19/31	11/⏲ 11/23/35
4/⏲ 4/16/28	8/⏲ 8/20/32	12/⏲ 12/24/36

Channel memory:

The preset station memory will retain its contents even when the power switch is turned off or the power cord disconnected, so long as the power cord is not left disconnected for more than a few days.

Memory scan:

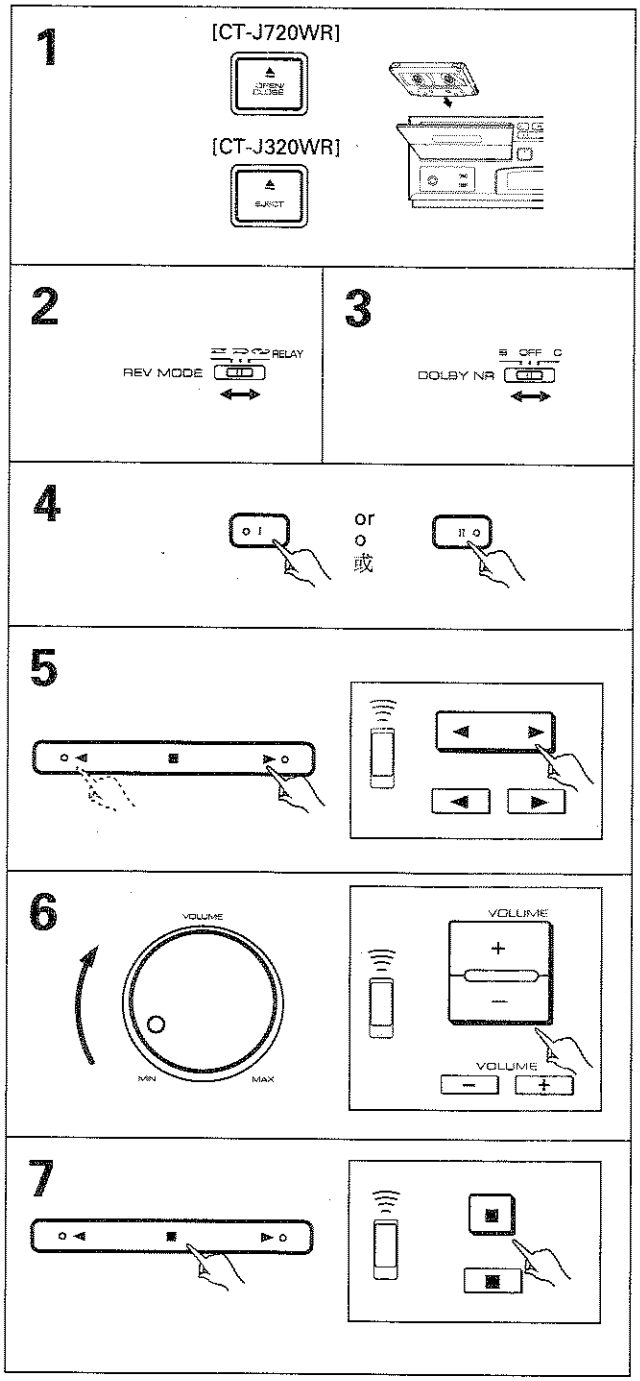
When you want to know which stations you have memorized, press the SCAN button on the remote control unit. Memorized broadcast stations are received for five seconds each one after another. When you have found the one you want to listen to, press the SCAN button once more to return to regular reception of your selected broadcast station.

Last station memory:

The last received AM and FM stations remain stored despite input selector and/or POWER switching. To recall, use BAND selector buttons.

RECORD PLAY (Turntable PL-J210)

1. **Set the Function to PHONO.**
2. **Place record on the platter mat.**
3. **Set the SPEED switch.**
4. **Set the ARM ELEVATION switch to UP position.**
5. **Move the tonearm manually to the desired position over the record.**
   - At this stage, the platter starts to rotate.
6. **Set the ARM ELEVATION switch to DOWN position.**
7. **To stop the player while a record is being played, press the STOP button (■).**



CASSETTE DECK OPERATIONS

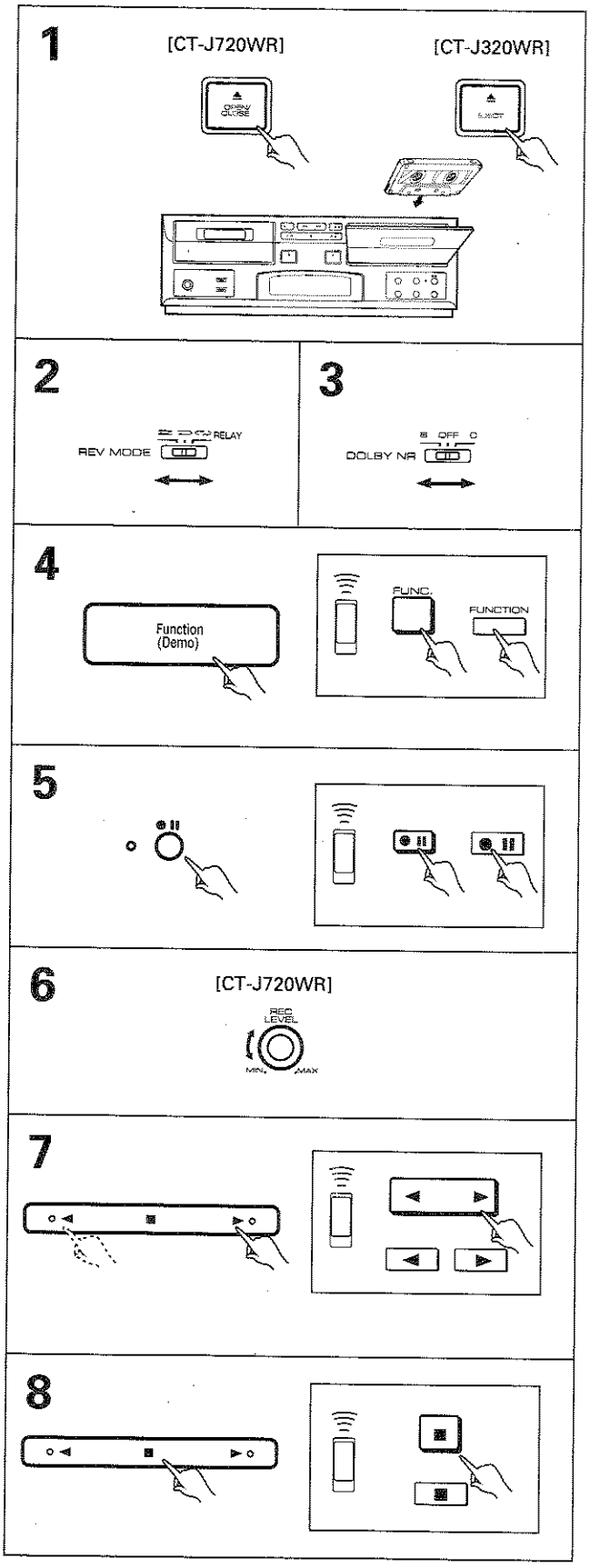
TAPE PLAY

Tapes may be played back in Deck I or Deck II but not in both decks at the same time.

1. **Press the EJECT or OPEN/CLOSE button (▲), and load a recorded tape. Close the cassette door.**
   - Make sure that there is no tape slack.
2. **Select the REV MODE switch.**
   - ⇄: One-sided play.
   - ⇉: To play on both sides of a tape.
   - ↻: When there is only one tape loaded in Deck I or II, both sides of the tape are played repeatedly 8 times (16 sides).
     If tapes are loaded in both Deck I and II, a maximum of 32 sides are played. (RELAY PLAYBACK, see page 78.)
3. **Set the DOLBY NR switch to the same position used for recording.**
4. **Press the selector button for the side you wish to play.**
5. **Press the play button (► or ◄).**
   - ►: Forward playback.
   - ◄: Reverse playback.
6. **Adjust the VOLUME control on the tuner amplifier.**
7. **To stop playback, press the ■ button .**

Auto Stop Mechanism

The mechanism stops automatically when the end of tape is reached.



RECORDING ONTO A CASSETTE TAPE

Recording can be performed on Deck II only. Recording is not possible on Deck I. You can make a recording of a source which has been processed with the sound field control.

1. **Press the EJECT or OPEN/CLOSE button (⏏), and load the tape for recording into Deck II. Close the cassette door.**
   - Make sure that there is no tape slack.
   - Check to see that the accidental erasure prevention tabs are not broken off.
   - Wind the tape forward past the leader to the start of the magnetic coated portion.
2. **Select the REV MODE switch.**
   ⇄: When recording on one side of a tape.
   ⇉ and ⇆: When recording on one side of the tape and then on the other (from forward to reverse direction only).
3. **Set the DOLBY NR switch to the desired position.**
   - A tape which has been recorded using the DOLBY NR system must be played back with the same type.
4. **Use the Function button on the tuner amplifier to select and play the recording source.**

Program source	Function	Operation
Equipment which is connected to VIDEO jacks	VIDEO	Operate the equipment connected to VIDEO jacks.
Equipment which is connected to AUX jacks	AUX	Operate the equipment connected to AUX jacks.
Record	PHONO	Operate the turntable.
Radio broadcast	TUNER	Tune into a broadcast.

[In the case of tuner amplifier SX-J320]

Digital audio tape or LaserDisc	DAT.LD	Play a digital audio tape deck or LaserDisc player.
Compact disc	CD	Play a CD player.

[In the case of tuner amplifier SX-J720/SX-J420]

Digital audio tape	DAT	Play a digital audio tape deck.
Compact disc or LaserDisc	CD.LD (or CD)	Play a CD player or LaserDisc player.

5. **Press the ●II button.**
   - The recording indicator lights.
   - The direction indicator on the play button flashes.
6. **While listening to the source you want to record, adjust REC LEVEL. (CT-J720WR only)**
   - Adjust with the REC LEVEL control while watching the level meter in the display section.

7. **Press the appropriate play button (► or ◄).**
   - **One side recording (Reverse mode switch: ⇄)**

   Forward recording ... Press the ► button.
   Records in forward direction, and stops recording at the end of the tape.
   Reverse recording ... Press the ◄ button.
   Records in the reverse direction, and stops recording at the end of the tape.
   - **Recording on both sides of the tape (Reverse mode switch: ⊃ or ⊂)**

   Be sure to start recording in the ► direction, if you wish for recording to continue automatically on both sides. In this case, if you allow recording to reach the forward end of the tape, then it will continue to the reverse side.
   However, if you press the ◄ button to start recording in the reverse direction, then it will stop at the reverse end of the tape.
8. **To stop recording, press the ■ button.**

Auto reverse function

This unit uses rotary type recording and playback heads, and the same heads are used in both forward and reverse directions. Tape end detection is employed to activate auto reverse operation which takes approx. 1 second after the tape is taken up.

NOTE:
A leader tape having a length equivalent to approx. 5 seconds is attached to an ordinary cassette tape. This means that for two-way travel of the leader tape there will be a break of approx. 11 seconds in the sound. Be very careful of this, particularly when making a two-way recording.

Pausing and restarting recording

1. **Press the ●II button.**
   - Recording will be suspended.
2. **To restart recording, press the play button (► or ◄).**

Recording level control (CT-J720WR)

Recording level adjustment is the most important factor in achieving good recording results. A high recording level helps to improve the signal-to-noise ratio and dynamic range, but if excessively high it will cause distortion. On the other hand, if the level is set too low out of fear of distorting the sound, an irritating tape hiss noise will become noticeable in the recording. With the recording level control (REC LEVEL), adjust the level so that "–4 dB" lights on the level meter. For actual recording, some adjustment to the recording level may be necessary depending on the kind of music being recorded and the kind of tape used. To make the most of the characteristics of the tape for better recording quality, listen carefully to the resulting recording and make adjustments as necessary.

Recording muting (SX-J720/SX-J420)

When recording, this can be used to create a blank no-signal area between tracks.
Press the mute button (O) on the remote control unit during recording or pause, and an unrecorded passage about four seconds long is created, and the unit enters the recording pause mode. (Auto space REC MUTE function) Keep the O button pressed during recording for the length of the blank space that you wish to create. When you release the button, the unit will enter the recording pause mode.
NOTE:
- *The O button does not operate in high-speed tape copy mode.*
- *Do not press the O button other than when necessary while recording.*

Counter switching (CT-J720WR)

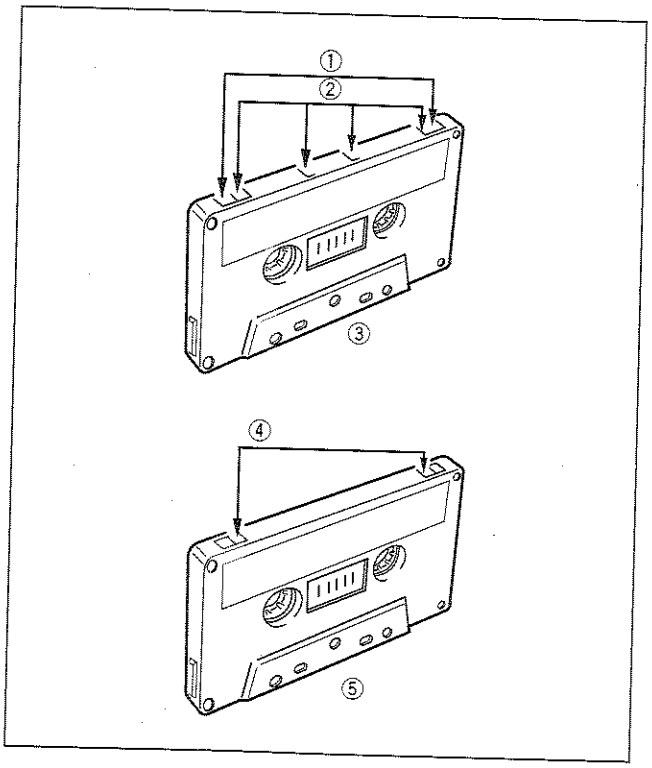
- If you press the TIME button, time counter indications are disåplayed, and the elapsed recording time is displayed in the deck's display section.
  Press the RESET button, and the counter display returns to "0000". Press the RESET button during time counter operation, and counter display returns to "00:00".
- If both Deck I and II are operating and you wish to switch the counter display, press the button for the side to which you wish to switch.

NOTE:

- *When playing back tapes recorded using a chosen sound field, be sure to set the sound field processor's EFFECT SELECTOR to the OFF position.*
- *When the SOURCE DIRECT button is in the OFF position, sounds can be recorded in the same condition in which you are currently listening to them.*

[SP-J720K, SP-J420 only]

- *When playing back tapes recorded with the BASS SYNTHE ON, be sure to set the BASS SYNTHE button to the OFF position.*
- *When recording is performed with Dolby mode (PRO Logic, Normal, 3CH Logic), the center speaker channel is not recorded, resulting in loss of the sound of vocals (which are normally focused in the center). As a result, this mode of recording is not recommended.*
- *If the balance adjustment dial is turned toward either side during recording, the sound recorded will reflect the same balance setting, thus resulting in poor left-right balance during playback. When making recordings, be sure that the balance is adjusted equally between left and right.*



Auto tape selector

Detection holes on a cassette tape distinguish between different kinds of tape. The ideal recording bias and equalization are automatically set depending on the kind of tape.

① Erasure prevention tabs
② Detection holes
③ TYPE IV (Metal) tape (In the case of the CT-J320WR, TYPE IV [metal] tapes can be played back, but cannot be recorded.)
④ Detection holes
⑤ TYPE II (HIGH/CrO_2) tape

The Dolby NR Systems

The Dolby NR Systems are designed to reduce high-frequency tape hiss noise generated during playback.
The level of low-volume, high-frequency sounds is increased during recording, and decreased by the same amount during playback to restore the original level. At the same time, high-frequency noise (the most easily perceived by the human ear) is attenuated.
Dolby B-type NR system reduces high-frequency tape noise, widening the dynamic range. Dolby C-type NR system is even more powerful, applying the noise reduction effect to a wider spectrum of frequencies from the middle range.

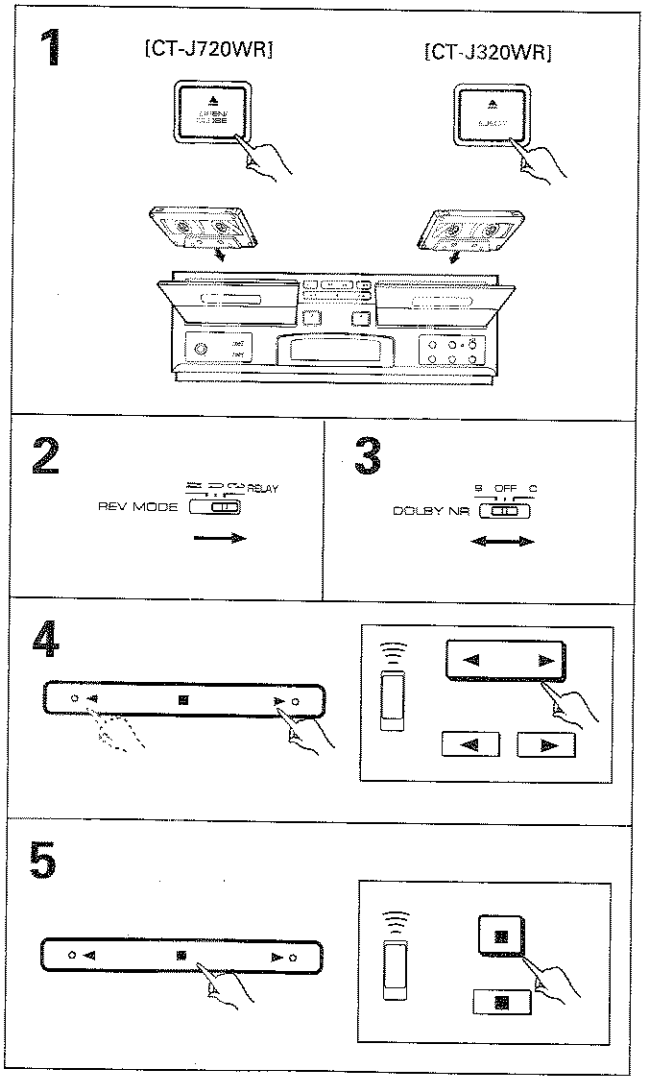
NOTE:

When a tape has been recorded using the Dolby B-type or C-type NR system, make sure that the DOLBY NR switches are set to the same position during playback.

Dolby HX Pro headroom extension system (CT-J720WR)

The Dolby HX Pro system controls the bias current during recording and always keeps it at an optimum level according to the high-frequency components of the music signal. It therefore allows excellent recordings even of digital sources which contain a large amount of strong, high-frequency components. The Dolby HX Pro effect is obtained independently from the Dolby NR setting (B-type, C-type or OFF). Furthermore, since the system is used only during recording, an improvement of sound can be achieved even if tapes recorded with Dolby HX Pro are played back with a deck, radio cassette recorder or car stereo system not equipped with DOLBY HX PRO. To guarantee optimum recording results, the HX Pro system of this unit is automatically activated during recording.

CASSETTE DECK APPLICATION GUIDE



CASSETTE TAPE RELAY PLAYBACK

- Relay playback is repeated as follows:

→ Deck I forward play (►) → Deck I reverse play (◄)
Deck II reverse play (◄) ← Deck II forward play (►) ←

- Relay playback is possible for a maximum of 32 sides.
- If there is a tape in only one of the decks, both sides will be played repeatedly for 16 sides.

1. **Load the playback tapes into Deck I or Deck II.**
   - Make sure that there is no tape slack.
2. **Set the REV MODE switch at ↻ (RELAY) position.**
3. **Set the DOLBY NR switch to the same position used for recording.**
4. **Press the appropriate play button (► or ◄) on Deck I or Deck II.**
5. **To stop relay playback, press the selector button of the deck currently playing, then press the ■ button.**

MUSIC SEARCH

This function lets you search for a track during fast forward and fast reverse. You can search up to a maximum of 15 tracks before or after the song you are listening to.

When searching during forward (►) playback:

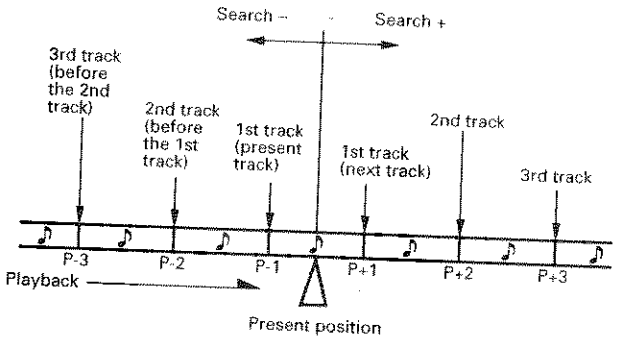
To go to the beginning of the next track after the currently playing track, press the [►►] button once. To search for subsequent tracks, press the [►►] button the same number of times as the number of tracks you wish to skip ahead to.
When you are searching for a previous track, press the [◄◄] button the desired number of times plus one.

When searching during reverse (◄) playback:

To go to the beginning of the next track after the currently playing track, press the [◄◄] button once. To search for subsequent tracks, press the [◄◄] button the same number of times as the number of tracks you wish to skip ahead to.
When you are searching for a previous track, press the [►►] button the desired number of times plus one.

How to count the song number

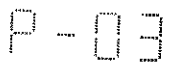
- When you select a track you want to search for during playback, if you set it for "one track before", you will return to the beginning of the track you were listening to. If you want to return to the track before the one you are listening to, add one to the number.



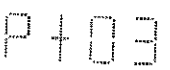
[CT-J720WR only]

- During music search operation, the number of tracks to be skipped is indicated in the tape counter display section. Each time a space between tracks is detected, the number of tracks to be skipped is counted up or down.

When the selected track is an earlier track.



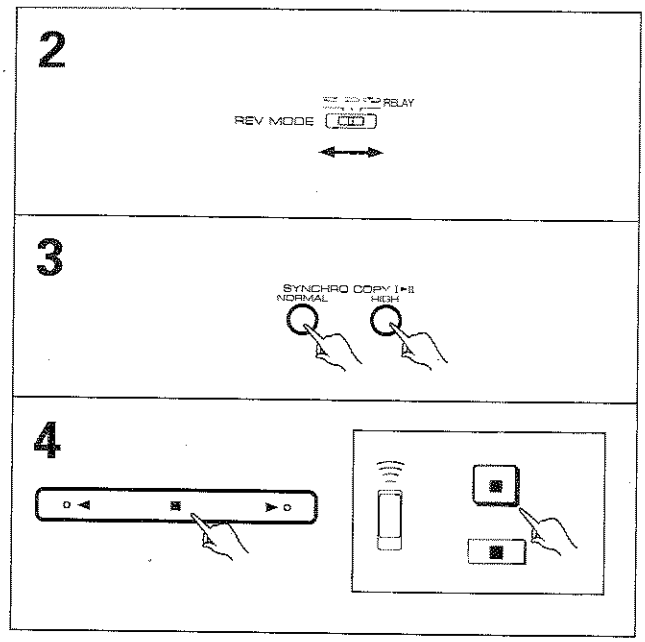
When the selected track is a later track.



NOTE:

Performing music search on the following types of tape may not be possible. This is not a unit malfunction, however.

- *A tape whose unrecorded portions between tracks are less than 4 seconds long.*
- *A tape with high noise level between tracks.*
- *A tape with low level or silent passages of several seconds in the same track, such as classical music.*
- *A tape, such as a conversation tape where sound is intermittent.*



COPYING TAPES

Duplicating the recorded contents of one tape onto another tape is known as tape copying. The contents of the tape in Deck I can be copied onto the tape in Deck II (but not vice versa). Copying is not possible while either deck is operating. You cannot record a source using the graphic equalizer.

If a tape recorded with the DOLBY NR system is copied, the copied tape will also be recorded automatically with DOLBY NR system. If a tape recorded without the DOLBY NR system is copied, the copied tape will also be recorded automatically without the DOLBY NR system.

1. **Load the recorded tape into Deck I and the tape for recording into Deck II.**
   - Use a cassette tape of the same length.
   - Wind the tape forward past the leader to the start of the magnetic coating portion.
   - Tape copying begins from the forward direction (►).
   - Make sure there is no tape slack.
2. **Select the REV MODE switch position.**
3. **Press one of the SYNCHRO COPY buttons.**
   NORMAL: For tape copying at normal speed while listening to the tape.
   HIGH: For tape copying at about twice normal speed.
4. **To cancel a tape copy midway through the copying process, press the ■ button.**
   - To listen to the tape's sound while making a copy, set the tuner amplifier's function selector to TAPE, then set the Dolby NR selector switch to match the conditions on the tape being played back.

Even if the Function is set to another position, tape copying will still proceed. The sound of the program source selected by the Function button will be heard through the speakers.

NOTE:

- *If you are using a TV in the vicinity of the unit, noise will be recorded. Either switch off the TV or move it away from the unit.*
- *There is variation in actual tape length even among cassettes of the same length label (C-60, C-90, etc.). Therefore, even if the recording tape is labeled as the same length as the playback tape, it is possible for the recording tape to end first without recording all of the contents of the playback tape.*
- *If you are performing high-speed copying near a television, interference (a high-pitched sound) may be recorded on the tape. If such interference occurs, perform copying at normal speed, or turn off the television set.*
- *When performing a tape copy, the copied tape will always be recorded with the same NR conditions as the original playback tape, regardless of the settings of the Dolby NR selector switch.*
  The recording level control does not operate during use of the tape copy function. Instead, the level of playback on the cassette tape in Deck I is automatically used as the recording level for the copy made on the Deck II tape.

A.S.E.S. (Auto Synchro Editing System)

[With the PD-J920M CD players]

For automatic recording of a CD to a cassette tape. With this function, the CD player searches for the peak level on the loaded disc (this requires about 90 seconds on a 12 cm CD recorded with 60 minutes of program).

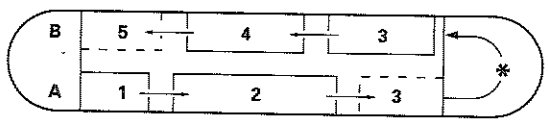
The cassette deck then automatically sets the recording level, and A.S.E.S. operation begins.

A 10-second blank interval is recorded at the beginning of the tape.

To use the A.S.E.S. function, load a disc into magazine tray 1 or 2. The function may not operate properly if a disc is not loaded in tray 1 or 2.

A, B: Indicates the side of the tape.
1 – 5: Indicates the number of the track.
***:** Indicates the leader part of the tape.

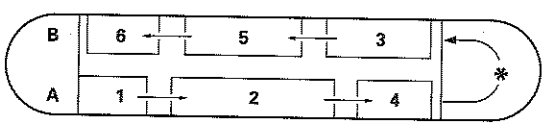
NORMAL EDIT



NORMAL EDIT (Tape length is not specified.)

This records CD tracks in the same order as on the disc. If the tape ends while a track is being recorded, that track is erased.

FINE EDIT



FINE EDIT (Tape length is specified.)

- **COMPU PGM**

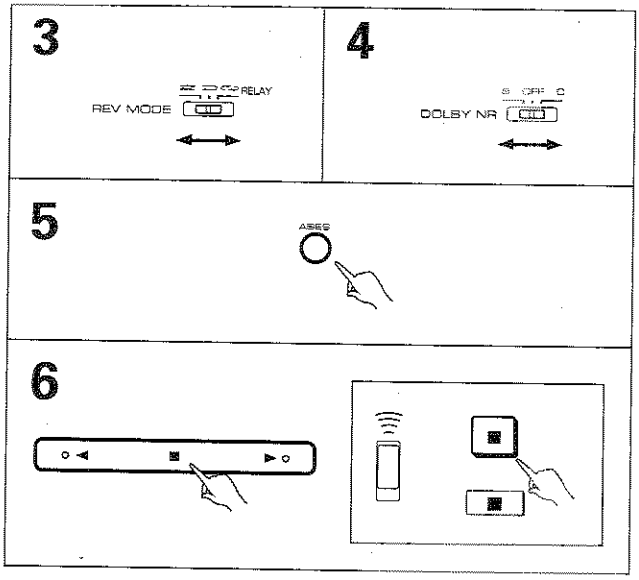
The recording order of the selected tracks will be rearranged in order to allow the largest possible number of tracks to be recorded within the specified time.

- **COMPU PGM II**

The internal computer will program all the tracks on the disc, and indicate the minimum length tape capable of recording all tracks.

Recording will start in the forward direction (►). When the end of this side is reached, tape direction will change and recording will continue in the reverse direction (◄). In the A.S.E.S. mode, tracks are recorded with a blank portion of approximately 5 seconds between tracks.

- If the CD player section is operating in a programmed mode, then A.S.E.S. proceeds with the programmed track order (NORMAL).



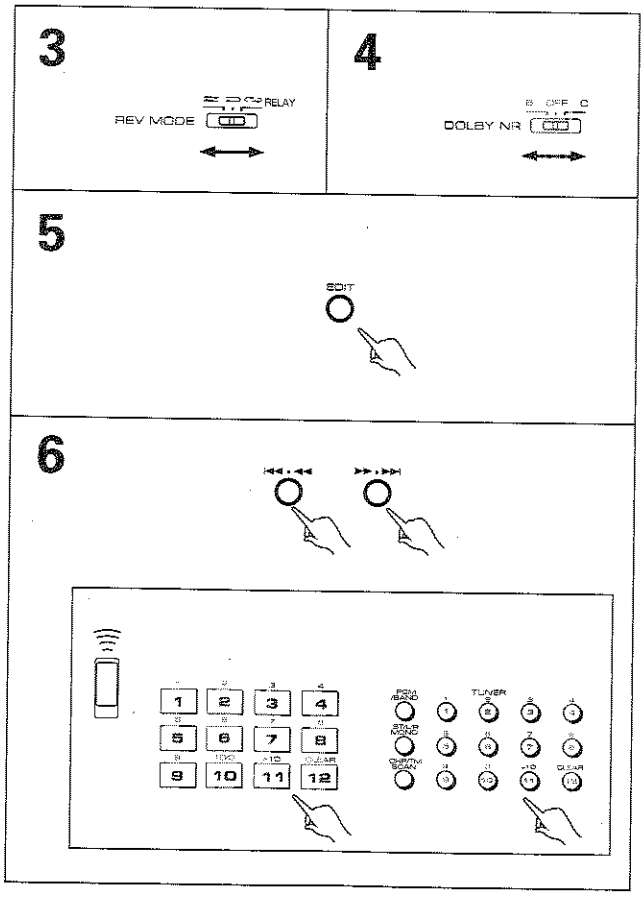
Using the NORMAL EDIT

1. **Load the magazine holding the disc into the CD player (PD-J920M).**
   By using your CD player's programming function, you can record disc tracks in any desired order.
2. **Load a tape for recording into Deck II.**
   - Check to see that the accidental erasure prevention tabs are not broken off.
   - Make sure that there is no tape slack.
   - A.S.E.S. recording starts in the forward direction. Load the cassette so that the side you want to start recording on is facing you.
3. **Select the REV MODE switch.**
4. **Set the DOLBY NR switch to the desired position.**
5. **Press the ASES button.**
6. **To stop A.S.E.S. operation, press the ■ button of Deck II.**

LINK A.S.E.S. (NORMAL EDIT only)

If extra tape remains after you have completed your edit recording session, the CD can be changed and A.S.E.S. recording continued. After 1 – 5 is performed, the A.S.E.S. will be temporarily terminated.

6. **Load another CD.**
7. **Press the recording pause button (● II).**
   The play button's indicator will flash. Recording will begin in the direction indicated by the flashing.
8. **Press the ASES button to begin linked A.S.E.S. recording.**



Using the FINE EDIT

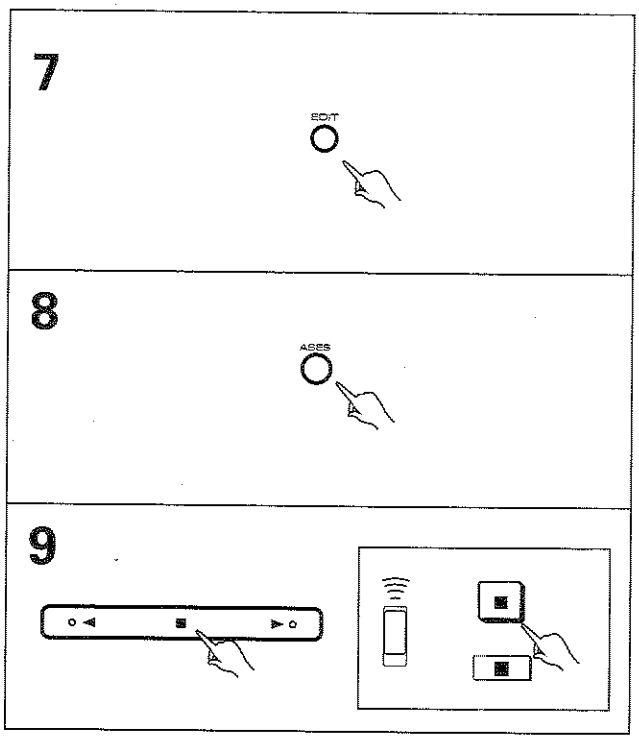
COMPU PGM

1. **Load the magazine holding the disc into the CD player (PD-J920M).**
2. **Load a tape for recording into Deck II.**
   - A.S.E.S. recording starts in the forward direction. Load the cassette so that the side you want to start recording on is facing you.
3. **Select the REV MODE switch.**
4. **Set the DOLBY NR switch to the desired position.**
5. **Press the EDIT button of the CD player.**
6. **Specify the recording time of the tape within 3 seconds, using the Manual/Track SEARCH buttons (|◄◄ ◄◄, ►► ►►|) of the CD player.**

→ 46 → 54 → 60 →74 → 90 (minutes)

Tape recording time will change in the above sequence each time the button is pressed.

- With a remote control unit that features 1 to 10 number buttons, you can specify the tape length by remote (1 to 99 minutes).
  When specifying 1 to 9, first press 0. For example to specify 7 minutes, press "0" (or "10/0" on the SX-J320) followed by "7".
- Three seconds after performing step 5, the unit will automatically be set to the COMPU PGM II mode.
  If you wish to perform the COMPU PGM II function again, press the ■ button, then return to step 5.



7. **Press the EDIT button of the CD player (PD-J920M).**
   All the programmed tracks for sides A, B and the recording time will be displayed.
8. **Press the ASES button.**
9. **To stop the A.S.E.S. operation, press the ■ button of Deck II.**

NOTE:

- *A.S.E.S. performs automatic recording from CD to tape, so do not attempt to perform manual operations during A.S.E.S. operation.*
- *A.S.E.S. may stop or operate incorrectly when there is a song change near the end of the tape. In such cases use manual operations to record the remaining songs.*
- *Programming cannot be performed properly with discs containing more than 24 tracks.*
- *When performing edit programming of both tape sides, the number of tracks that can be programmed is 24 on the A side, but only 23 on the B side, since one step must be used as a pause following completion of side A.*

COMPU PGM II

- When the COMPU PGM II function is selected, the CD player programs all the tracks on the loaded disc, and indicates the minimum length tape capable of holding all the tracks.
- The PD-J920M's COMPU PGM II function, however, cannot be used with compact discs holding more than 24 tracks.
- Programming cannot be formed with discs on which a single track exceeds forty-five minutes in length.

1. **Load the magazine holding the disc into the CD player (PD-J920M).**
2. **Press the CD player's EDIT button one time.**
   After about three seconds, the COMPU PGM II function will begin automatically. The CD player will program the disc's tracks, and display the shortest length of cassette tape capable of holding all the tracks. Select from one of the following tape lengths:
   46 minutes, 60 minutes, 90 minutes.
3. **Insert a cassette tape of the proper length, and begin computer program recording by following steps 2, 3, 4, 8 on "COMPU PGM".**

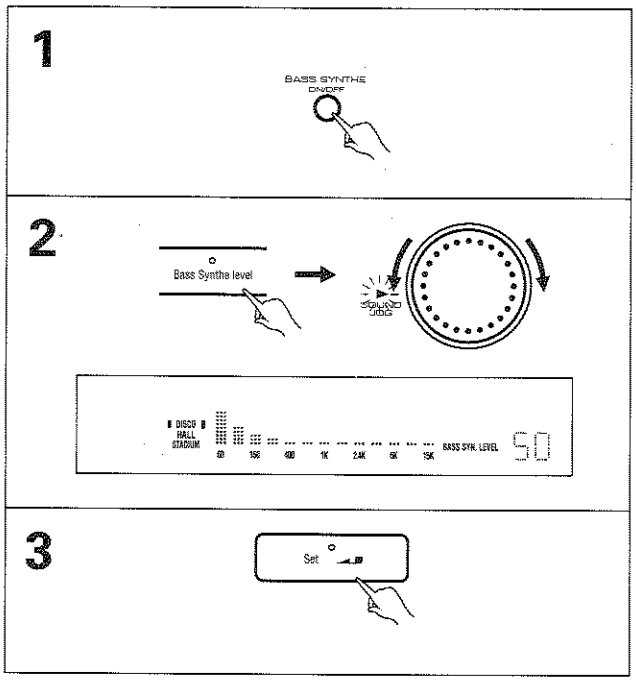
TO SELECT A SPECIFIC PLAYBACK SCENE

- The SP-J720K and SP-J420 are equipped with a Scene Selector button which allows the following three playback scenes (modes):

① Music playback (audio scene)
② Sound and video playback (AV scene)
③ Music playback for karaoke sing-along (Karaoke scene)

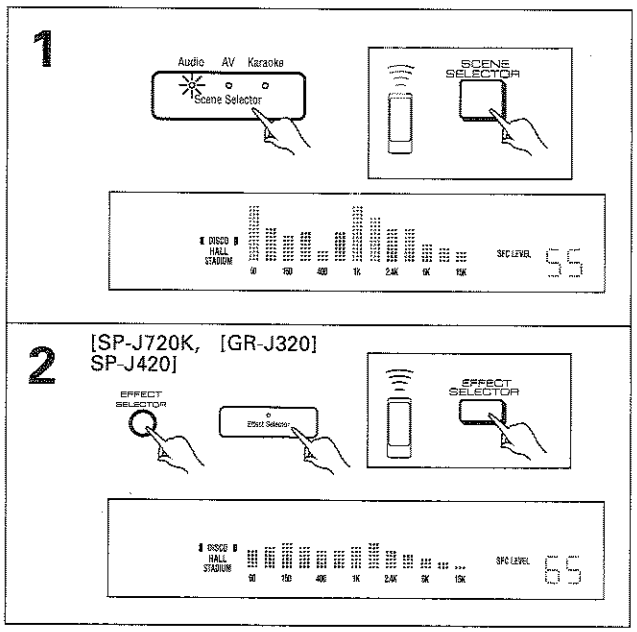
- Each time this button is pressed, the scene changes as follows:

- When using the GR-J320, only the audio scene can be controlled.



To boost bass frequencies (SP-J720K, SP-J420 only):

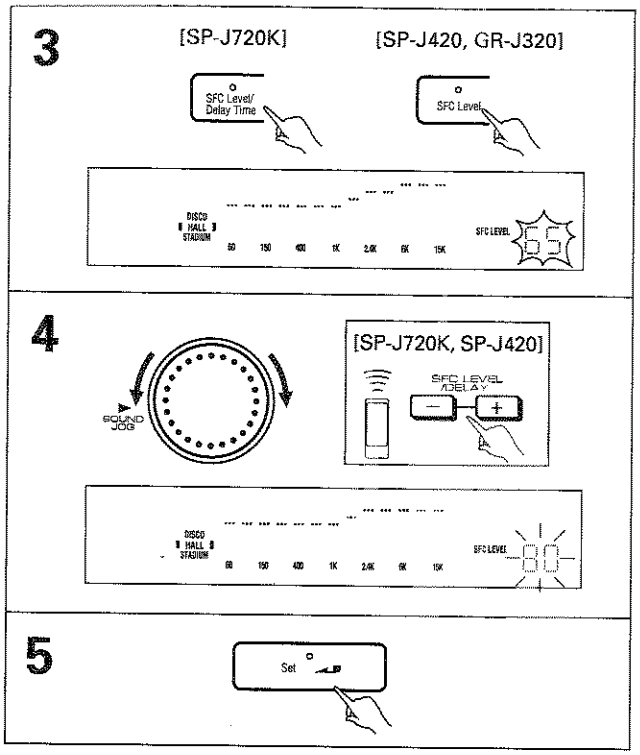
1. **Press the BASS SYNTHE ON/OFF button to set to ON.**
2. **Press the Bass Synthe level button and use the SOUND JOG dial to adjust to the desired amount of bass boost.**
   Depending on the kind of source played back, use of the Bass Synthe function may result in a distortion of the playback sound. In this case, adjust the Bass Synthe control to a level that distortion is eliminated.
3. **When settings are completed, press the Set button.**
   The unit will also be set automatically if the Set button is not pressed within 30 seconds.



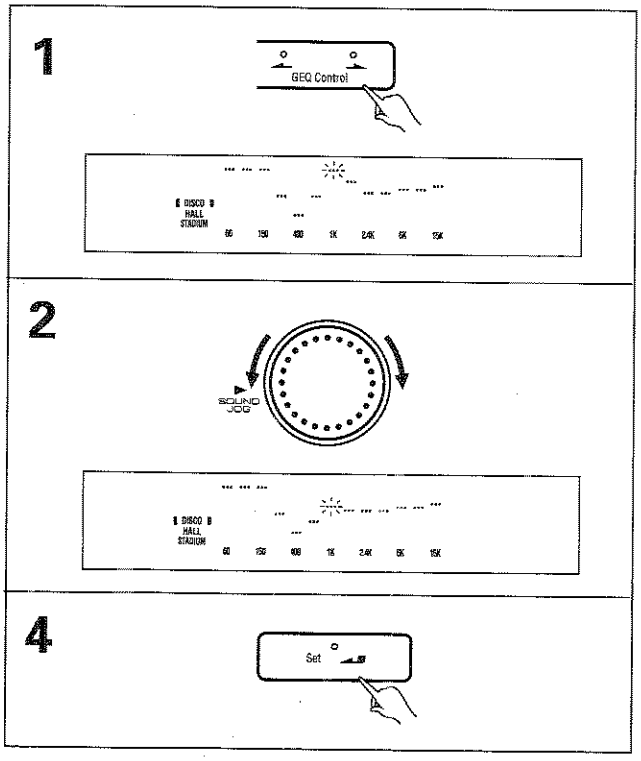
AUDIO SCENE

- When you wish to listen to music playback, select AUDIO SCENE. (SP-J720K, SP-J420 only)
- Recording can also be performed using your own selected sound field.
- The sound field control is especially effective when surround (rear) speakers are used. Use the remote control unit's REAR LEVEL button to adjust the volume of surround speakers (SP-J720K, SP-J420 only).

1. **Press the Scene Selector button so that the "Audio" indicator lights (SP-J720K, SP-J420 only).**
   When audio scene is selected, all portions of the display not related to the audio scene functions will disappear.
2. **Use the EFFECT SELECTOR button to select the desired sound field.**
   When the button is pressed, the sound field changes alternately as follows:



3. **Press the SFC Level/Delay Time button.**
   The SFC Level indicator will begin flashing.
4. **Use the SOUND JOG dial to adjust the level.**
   If the GEQ FLAT button is pressed, the pattern will return to its initial flat (normal) condition.
5. **Press the Set button.**
   The unit will also be set automatically if the Set button is not pressed within 30 seconds.



Adjusting sound quality

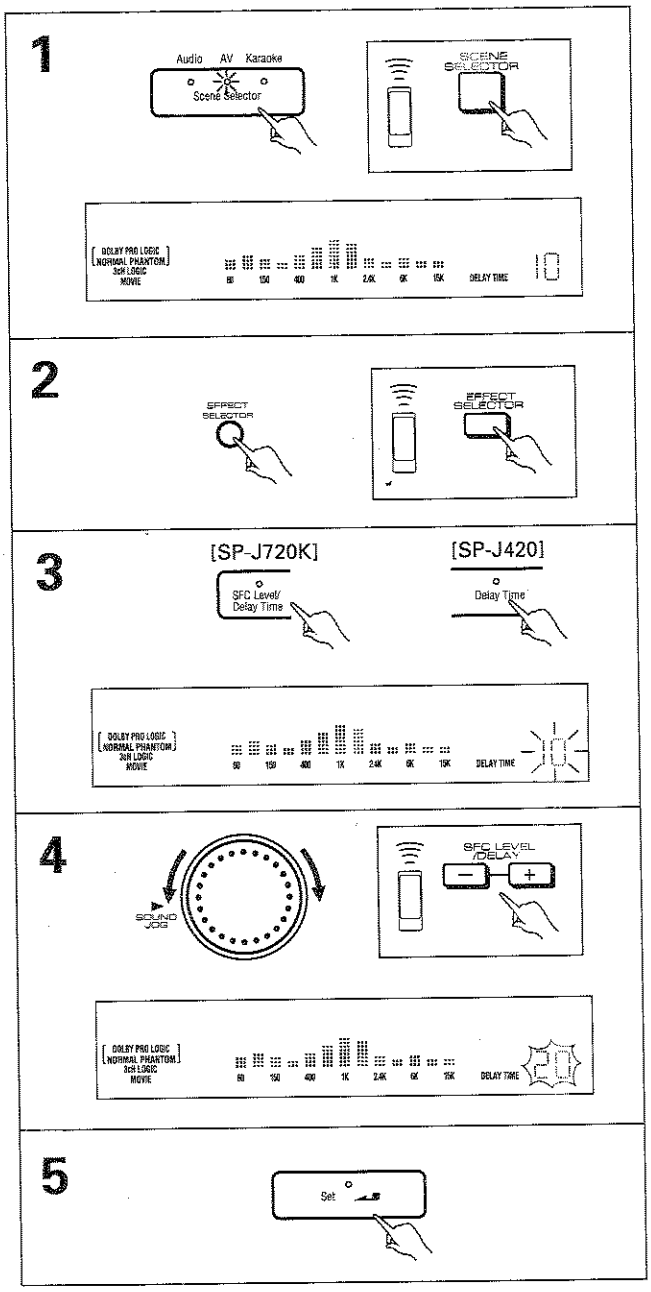
- You can create your own finely tuned tonal patterns.
- Using this function, sounds are divided into seven frequency regions, and independent fine adjustments can be made for each of the regions.
- The following seven regions can be adjusted:
  60 Hz, 150 Hz, 400 Hz, 1 kHz, 2.4 kHz, 6 kHz, 15 kHz

1. **Select the frequency range you wish to adjust with the GEQ Control buttons.**
   The flashing will move to the side.
2. **Adjust the tonal quality with the SOUND JOG dial.**
3. **To adjust the other frequency ranges, repeat steps 1 and 2 as required.**
4. **When finished with all adjustments, press the Set button.**

NOTE:

- *Select a sound field, adjust the level of the specified effect with the SOUND JOG. The settings are memorized for each mode, and remain in memory even if power is switched off. The memory will be erased, however, if the power cord is disconnected from its outlet, or if your house is subject to a power failure.*
- *EQ patterns set with the graphic equalizer are memorized for each sound field mode, and remain in memory even if power is switched off. The memory will be erased, however, if the power cord is disconnected from its outlet, or if your house is subject to a power failure.*
- *If you wish to return to the initial default settings after making fine adjustments on the graphic equalizer, perform the following:*
  ① Press the SFC Level button.
  ② Adjust the level with the SOUND JOG dial.
- *There are 60 factory-preset values for each SFC level.*

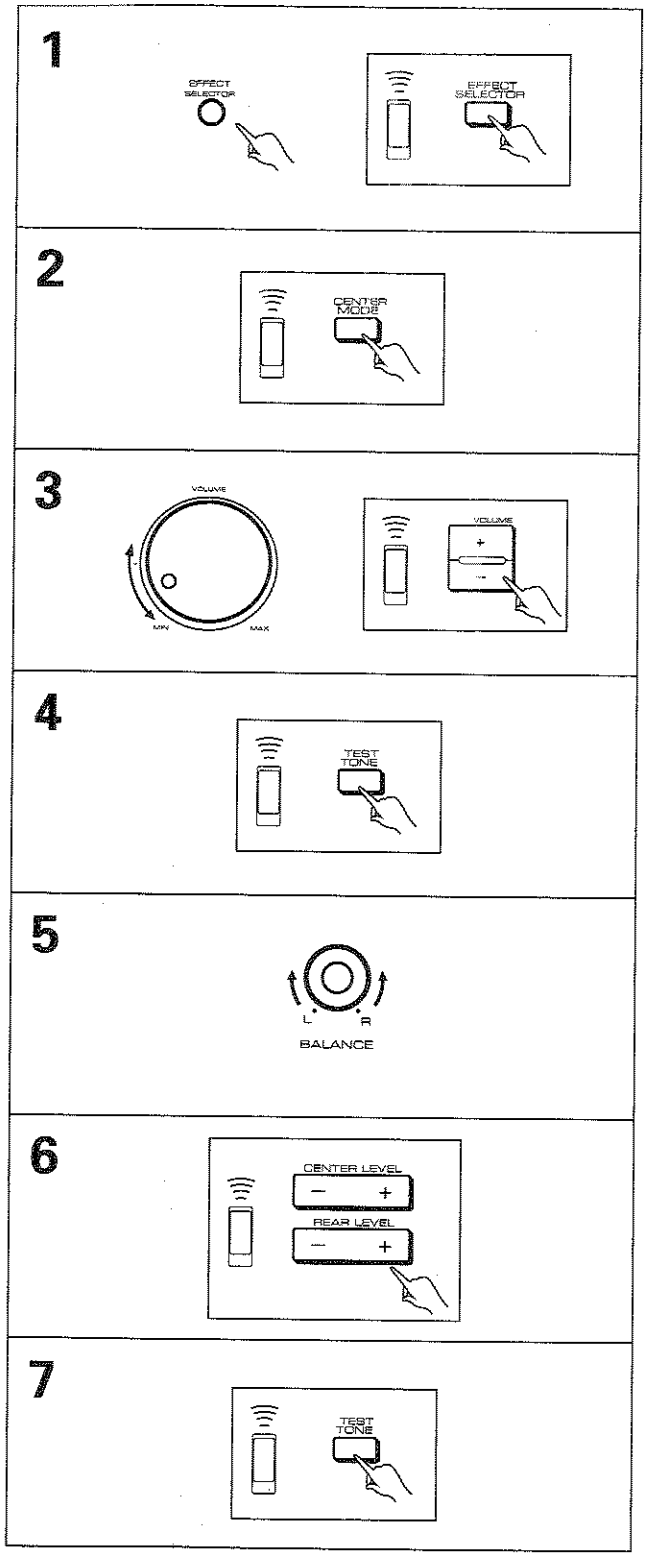
TO SELECT A SPECIFIC PLAYBACK SCENE



AV SCENE (SP-J720K, SP-J420 only)

- When using video programs bearing the DOLBY SURROUND mark, set the sound field to DOLBY PRO LOGIC SURROUND. This will reproduce the kind of effects heard in a movie theater or live concert hall, and a sense of immediacy unique to Dolby surround sound.
- When using only left, right, and center speakers, programs bearing the DOLBY SURROUND mark should be played back using the 3CH LOGIC sound field.
- Programs not bearing the DOLBY SURROUND mark are most effective when played back using the MOVIE sound field.

1. **Press the Scene Selector button so that the AV indicator lights.**
   When the AV scene is selected, all portions of the display not related to the AV scene functions will disappear.
2. **Use the EFFECT SELECTOR button to choose the desired sound field model. Each time the button is pressed the sound field changes in the following order:**
   → DOLBY PRO LOGIC SURROUND → OFF ← MOVIE ← DOLBY 3CH LOGIC ←
3. **Only when DOLBY PRO LOGIC SURROUND has been selected: Press the SFC Level/Delay Time button.**
   The delay time indicator will flash.
4. **Adjust surround speaker delay time with the SOUND JOG dial.**
   Select delay time from 15 ms to 30 ms in 5 ms steps. As the value increases, sound from the surround speakers is delayed more, compared to that of the front speakers, giving you the impression of listening in rooms of different sizes.
5. **When settings are completed, press the Set button.**



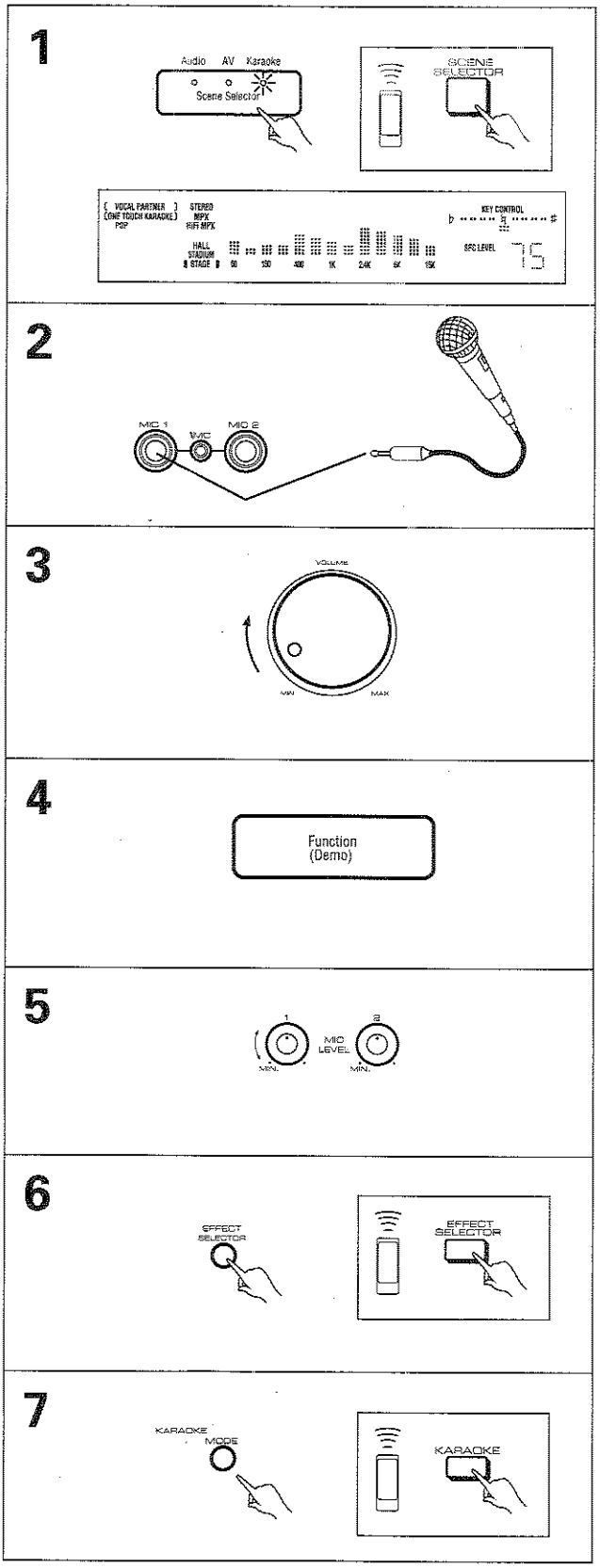
Adjusting the Surround Level

- To achieve proper surround playback, be sure to perform the following adjustments:

1. **Use the EFFECT SELECTOR button to select DOLBY PRO LOGIC SURROUND or DOLBY 3CH LOGIC.**
2. **If DOLBY PRO LOGIC SURROUND has been selected, use the remote control unit's CENTER MODE button to select either Normal or Phantom.**
3. **Adjust the volume as desired.**
4. **Press the remote control unit's TEST TONE button to produce a test tone.**
5. **While listening to the test tone, use the tuner amplifier's BALANCE control to adjust the right-left speaker balance so that the sound level is equal.**
6. **While listening to the test tone, use the remote control unit's CENTER LEVEL +/–, and the REAR LEVEL +/– buttons to produce an equal sound level from the surround speakers.**
7. **Press the remote control unit's TEST TONE button to turn off the test tone.**

Note regarding the test tone:

- *When using the DOLBY 3CH LOGIC sound field, no sound will be produced from the surround speakers.*
- *When the center mode is set to Phantom, no sound will be produced from the center speaker.*



KARAOKE SCENE (SP-J720K, SP-J420 only)

- To sing along with karaoke musical accompaniment, select the Karaoke Scene.
- When using the CLD-J720, it is most convenient when used with the single-play function. See the Operating Instructions regarding how to use the single-play operation.

1. **Use the Scene Selector button so that the KARAOKE indicator lights.**
   When the KARAOKE scene is selected, all portions of the display not related to the Karaoke scene functions will disappear.
2. **Connect microphones to the MIC jacks.**
   - Microphones must be of the ordinary plug type.
   - When closing the disc tray or cassette door, be careful not to catch the microphone cord.

   [SP-J720K only]
   When connecting a microphone equipped with a key controller, be sure to connect to the key control jack.
3. **Adjust the volume as desired.**
4. **Select the playback component to be used.**
5. **Use the MIC LEVEL controls to adjust the sound volume of microphones.**
6. **Press the EFFECT SELECTOR button to choose the desired sound field.**
   Each time the button is pressed, the sound field changes in the following order:
   HALL → STADIUM → OFF ← STAGE ←
7. **Begin playback.**

   [SP-J720K only]
   Use the KARAOKE MODE button to select VOCAL PARTNER or ONE TOUCH KARAOKE. Each time the button is pressed, the mode changes in the following order:
   → ONE TOUCH KARAOKE → VOCAL PARTNER → OFF ←

   VOCAL PARTNER: When you sing into the microphone, the voice of the singer on the recorded music source is automatically de-emphasized, and when you stop singing, the voice of the singer on the recorded music source automatically returns to its former level. This function is particularly effective when you do not remember the words of a song well, or when you wish to practice singing one part of a duet.
   ONE TOUCH KARAOKE: The voice of the recorded singer is de-emphasized uniformly, thus producing a simple form of karaoke musical accompaniment.

   [SP-J420 only]
   When playback begins, the unit automatically enters the One-Touch Karaoke mode.
   - The effects of voice de-emphasis are less pronounced when the karaoke function is used with tape recordings than when used with CD recordings. In addition, satisfactory voice de-emphasis effect may not be produced in the case of duets and other vocals which feature sound tracks sharply divided between right and left channels, or with recordings featuring strong echo effects, and otherwise depending on the recording conditions.
   - This function merely reduces the level of frequency bands typical to the human voice, and does not entirely cancel the original vocal sounds within the source.

If you miss the beginning of a karaoke song:
If you miss the beginning of a song you want to sing along with, or if you merely wish to hear the same portion of a song again, press the remote control unit's ONCE button; each time the button is pressed, the recording is returned to a point about five seconds earlier in time. (This function cannot be used with cassette tape karaoke or video karaoke.)
When using a microphone equipped with key controller, the microphone's "once more" button may be used instead.

If feedback howling (a loud, high-pitched whining sound) occurs:
① Turn the microphone level dial to the left.
② Move the microphone as far from the speaker as possible.
③ Lower the sound volume.

To perform mixing recording:
By following the instructions for recording on page 72 (Deck II only), you can record your own voice together with karaoke background accompaniment. (Background accompaniment played back from cassette tape cannot be recorded).

NOTE:
When performing mixing recording, excessive input from the microphone may cause distorted sound to be recorded. As a result, be especially careful to adjust the recording level properly before beginning the actual recording process (only with CT-J720WR, see page 74).

Selecting the audio mode (SP-J720K only): MPX ○
- When the karaoke selector MPX is pressed, the vocal playback mode changes in the following order:

Disc \ MPX ○	STEREO	MPX	HiFi MPX
Digital multiplex, multi-audio disc	Digital stereo	Analog monaural + vocal	Digital stereo + vocal
Multiplex disc	*	Analog monaural + vocal	*
CD multiplex karaoke disc	Digital monaural + vocal	Digital monaural + vocal	*

* : Cannot be set

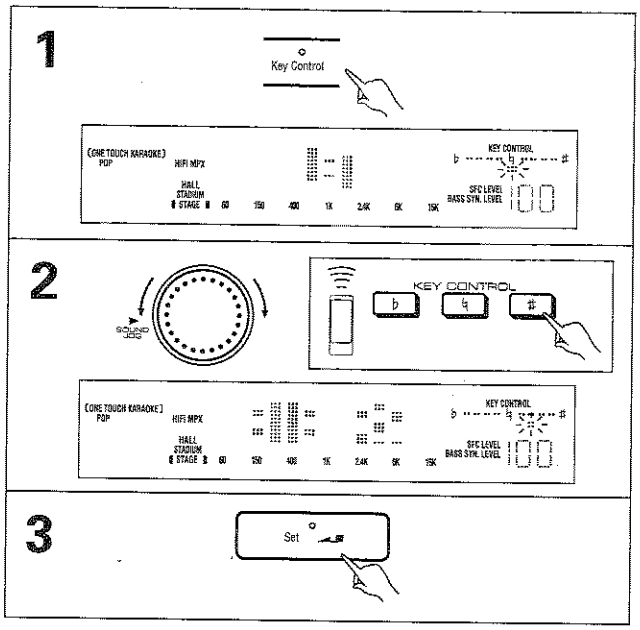
Once the above setting has been made, use the MPX BALANCE dial to adjust.

When turned to the KARAOKE side. . .
karaoke-type musical accompaniment is produced (original vocals on the source are de-emphasized).
When turned to the VOCAL side. . .
the playback source contains the original vocal sound.

- This adjustment cannot be used when the audio mode is set to stereo.
- Some discs may switch automatically to the appropriate audio mode.

Selecting the echo mode (SP-J720K only): ECHO TONE ○ ECHO LEVEL ECHO

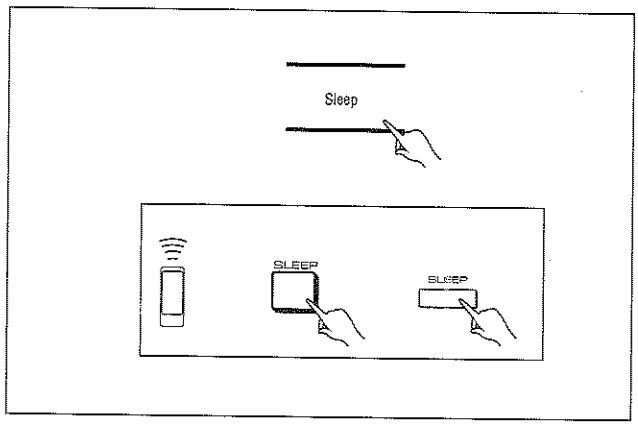
When the karaoke selector's ECHO TONE button is pressed, the echo effect alternates between BALLAD (suitable for singing along to "ballad"-type songs) and POPS (suitable for singing along to "pops"-type songs).
Once this setting is made, use the ECHO LEVEL dial to adjust the amount of echo effect applied.



Changing the key pitch of the musical accompaniment (SP-J720K only)

1. **Press the Key Control button.**
   Depending on the source, the sound may appear to be broken or rough.
2. **Use the SOUND JOG dial to adjust the key pitch.**
   When the dial is rotated to the right the key pitch is raised; when rotated to the left, the key pitch is lowered.
   When using the remote control unit, press the # key to raise the pitch.
   Press ♮ to return to the initial pitch setting.
   Press ♭ to lower the pitch. Perform this adjustment while watching the display indicators.
   - When using a microphone with key controller, the microphone's key control buttons can be used to change the pitch as desired.
3. **Press the Set button.**

SLEEP TIMER



Automatically turns off power.

Power is turned off automatically after your set time has elapsed.

<When using the controls on the remote control unit>
Each time you press the SLEEP button, the setting changes in the sequence shown here.

→ 90 → 60 → 30 →
(Approx. 90 minutes) (Approx 60 minutes) (Approx 30 minutes)
(AUTO: during playback of CD, CDV, or LD, or deck recording/playback). ← 0 (OFF) ←

<When using the controls on the tuner amplifier's main control panel>

1. **Press the Sleep button.**
2. **Use the up ▲ and down ▼ buttons to set the time. Pressing the buttons causes the time setting to change as follows:**

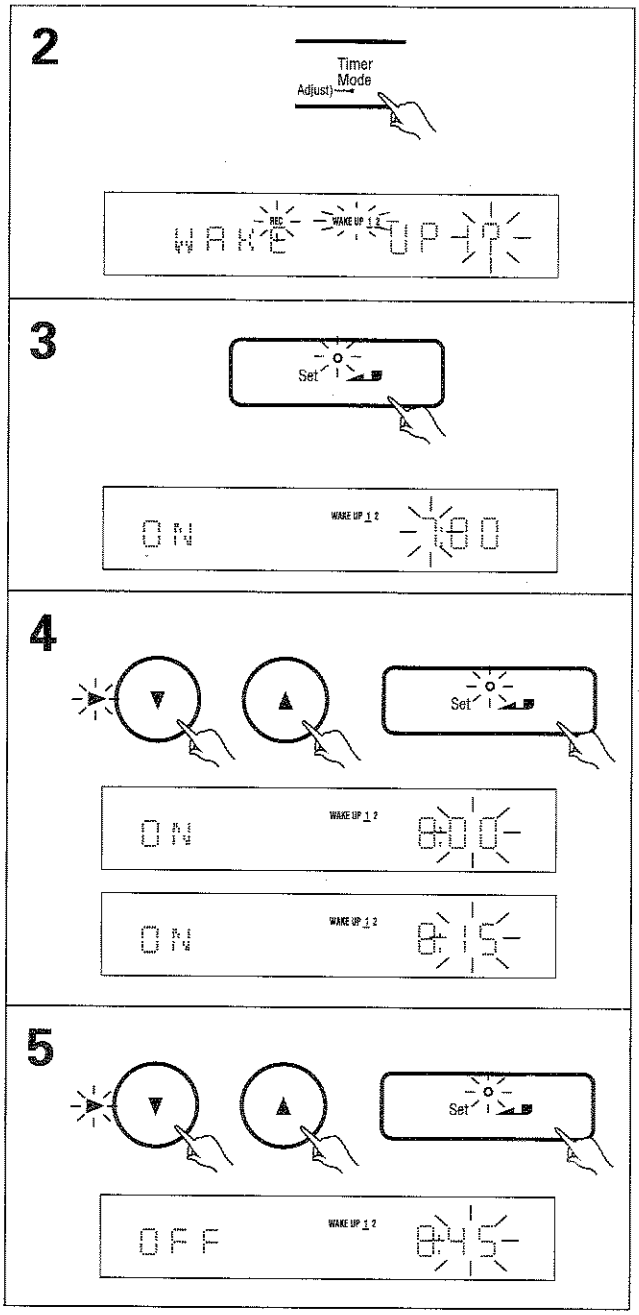
→ AUTO (recording, playback only) → 90 min.
0 (OFF) ← 30 min. ← 60 min. ←

3. **Press the Set button.**

During CD play, and tape recording and playback, if you press the Sleep button and select "AUTO", power to the unit is automatically switched off when recording and playback have finished.
During relay playback, power is switched off when playback has finished on one deck.

- During SLEEP operation, if you press the Sleep button one time, sleep timer remaining time is displayed. If you press it once more, sleep timer time settings change.

TIMER PLAYBACK (Using the tuner amplifier for timer setting)



- A compact disc, cassette or a radio broadcast can be used as a morning alarm instead of an alarm clock.
- You can set volume level to about the middle point. It is not possible to set the volume level higher than this.
- Timer playback begins everyday at the same time as long as the timer playback mode is not turned off.
- To receive the desired station for TIMER PLAYBACK, set the frequency of the station to a channel and tune to that channel before setting the timer.
- Switch the function to the desired source for timer playback.
- Perform timer settings with power ON.

[Example] When set to WAKE-UP 1 from 8:15 A.M. to 8:45 A.M.

1. **Select the function for the desired source.**
   - **To listen to a CD ...**

   Switch the function to CD, and load a disc.
   - **To listen to the radio ...**

   Switch the function to TUNER, and recall a desired station with Station Call (pages 64~68).
   - **Listening to a tape ...**

   Switch the function to TAPE, and load Deck I or Deck II with a tape. The deck starts playback in the forward direction (►). If tapes are loaded in both Decks I and II, playback starts on Deck I.

   Set volume and other controls as desired.
2. **Press the Timer Mode button to select either WAKE-UP 1 or WAKE-UP 2.**

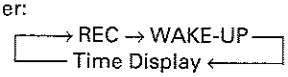
   Each time the button is pressed, the mode changes in the following order:

   → REC → WAKE-UP 1 →
   OFF ← WAKE-UP 2 ←
3. **Within 5 seconds, press the Set button and set the start time.**
4. **Select the hour with the up ▲ or down ▼ buttons, and press the Set button. Select the minutes with the up ▲ or down ▼ buttons, and press the Set button.**
5. **Refer to steps 3 and 4 to set the stop time.**

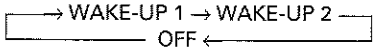
   After showing the ON time, OFF time, and the selected function, the tuner display will return to the normal display.
   - If you don't set the stop time, it is automatically set for one hour after the start time.

[To activate the timer]

1. **Press the Timer On/Off button and select "WAKE UP?".**
   Each time the button is pressed, the mode changes in the following order:

2. **Press the Set button.**
3. **Use the up ▲ or down ▼ buttons to select either "WAKE-UP 1" or "WAKE-UP 2".**
   Each time the button is pressed, the mode changes in the following order:

4. **Press the Set button. If the power is ON, switch it OFF.**

[To change the timer setting]

Input the new setting, beginning with the first step.

[If you make a mistake while setting the timer]

Complete the entire process first, then input correctly from the beginning.

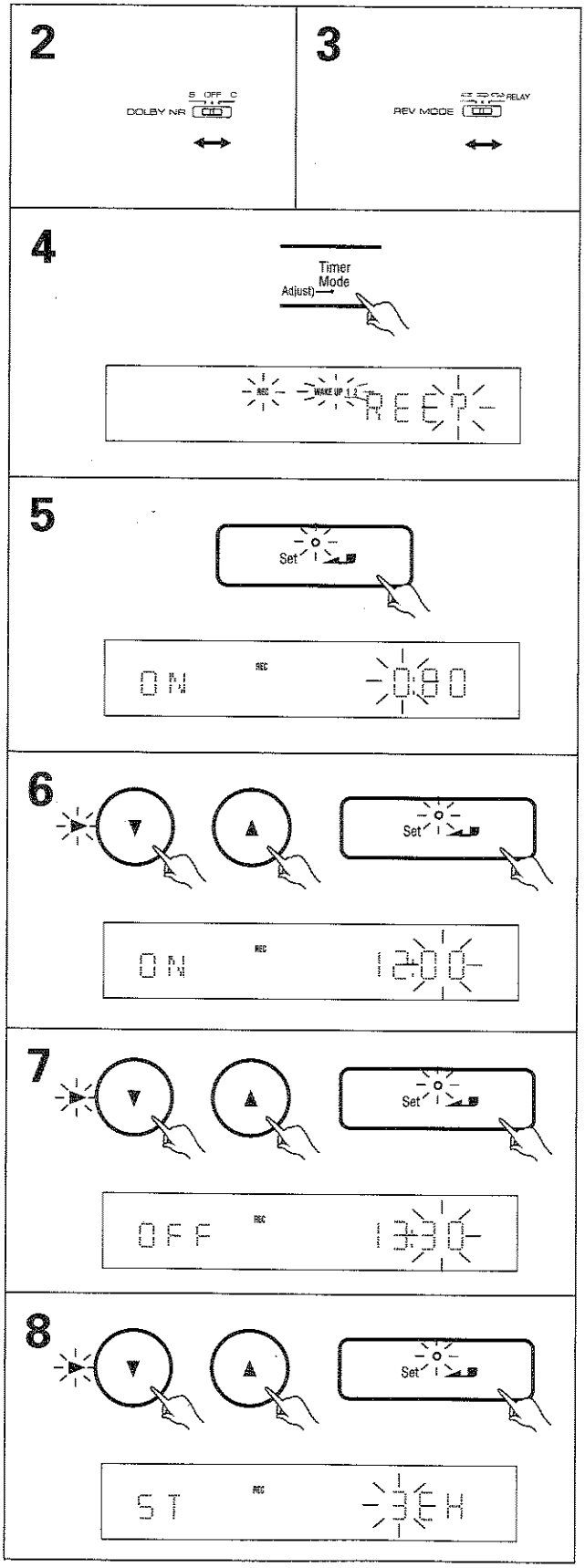
[Turning the Timer On/Off]

After inputting the timer setting, check the tuner display to confirm which timer is set to ON. The timer whose indicator is lighted (WAKE-UP 1 or 2) will be activated. If one of the timer indicators "WAKE-UP 1 or 2" is not lighted, the timer playback will not be performed. Since the setting information is stored in memory, however, the function can be activated merely by turning the proper indicator on once again.

[To check the timer settings]

Select 1 or 2 with the Time Mode button. After about five seconds, settings are displayed.

TIMER RECORDING



- At the set time, an FM or AM station is recorded (enabling recording while you are out or asleep).
- Stations you wish to record with the timer recording function can be preset beforehand.
- Perform timer settings with power ON.
- With the CT-J720WR, recording level adjustment is required.

NOTE:

Make sure that the erasure prevention tabs of the cassette have not been removed.

[Example] When set to record station 3 from 12:00 P.M. to 1:30 P.M.

1. **Insert a tape to be recorded into Deck II.**
   - Recording starts in the forward direction. Load the cassette so that the side you want to start recording on is facing you.
2. **Set the DOLBY NR switch on the cassette deck to the position of your choice.**
3. **Set the REV MODE switch as desired.**
4. **Press the Timer Mode button to select "REC?".**
   Each time the button is pressed, the mode changes in the following order:

   REC → WAKE-UP 1 → OFF ← WAKE-UP 2 ←
5. **Within five seconds, press the Set button.**
6. **Set the start time.**
   Select the hour with the up ▲ or down ▼ buttons, and press the Set button. Select the minutes with the up ▲ or down ▼ buttons, and press the Set button.
7. **Set the stop time.**
   Select the hour with the up ▲ or down ▼ buttons, and press the Set button. If you don't set the time for recording to stop, it is automatically set to stop after one hour.
   Select the minutes with the up ▲ or down ▼ buttons, and press the Set button.
   The procedure for start time and stop time setting is the same as for the WAKE UP TIMER, so refer to TIMER PLAYBACK.
8. **Select the station you want to record with the up ▲ or down ▼ buttons, and press the Set button.**

[To activate the timer]

1. **Press the Timer On/Off button and select "REC?".**
   Each time the button is pressed, the mode changes in the following order:

   → REC → WAKE-UP →
   Time Display ←

2. **Press the Set button.**
3. **Use the up ▲ or down ▼ buttons to select "REC ON".**
   Each time the button is pressed, the mode changes in the following order:

   → REC ON → OFF →

4. **Press the Set button.**
   If the power is ON, switch it OFF.

[To change TIMER RECORDING setting]

Input the new setting, beginning with the first step.

[If you make a mistake while setting the timer]

Complete the process first, then input correctly from the beginning.

[Turning the Timer On/Off]

Confirm that REC indicator is lighted on the display section. Note that the TIMER RECORDING mode is valid only for one recording. Since the setting information is stored in memory, however, the function can be activated merely by turning the proper indicator on once again.

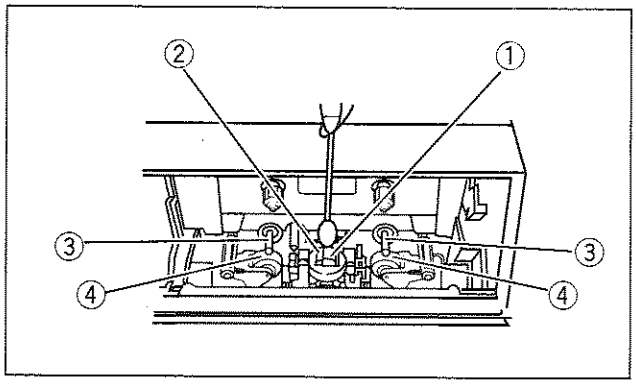
[To check the timer settings]

Press the Timer Mode button. After about five seconds, timer settings are displayed.

[Timer setting priority]

- If more than one timer is set, and their operation times are overlapping, the timer with the earlier starting time has priority. The other timer(s) will not be activated.
- If more than one timer is set and their starting time has been set at the same time, they will be activated in the sequence of REC, WAKE-UP 1 and WAKE-UP 2.
- If the OFF time of the SLEEP timer is set within the operating time of one or more additional timers, the SLEEP timer has priority.
- When setting the wake-up timer and recording timer to run sequentially, be sure that at least a one minute interval is allowed between the two function settings.

MAINTENANCE



① Recording/playback head
② Erasing head
③ Capstan
④ Pinch roller

CLEANING THE HEAD SECTION

To enjoy perfect performance and high-quality sound, clean the head periodically (once every 10 hours).
The heads, capstan and pinch roller are parts which are liable to get dirty quite easily. In particular, if the heads are dirty, the high frequency components of the sound will not be reproduced and the stereo balance will be impaired, resulting in a deterioration in sound quality. It is therefore recommended that the head section be cleaned regularly.

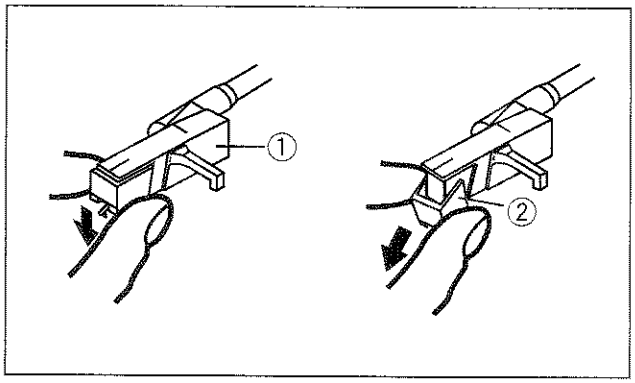
- Press the EJECT or OPEN/CLOSE button to open the cassette door.
- Dip a cleaning swab into head cleaning fluid and use it to wipe the heads, capstan, and pinch roller. Be careful the cleaning swab doesn't become entangled. Wait 2 – 3 minutes till cleaning fluid dries.

NOTE:
This unit uses a head-slant standby system, with the result that the heads are mounted at an angled position.

DEMAGNETIZING THE HEAD

The recording/playback head becomes magnetized when you use the tape deck for prolonged periods of time. This results in noise being generated and the treble dropping off during recording and playback. The recording/playback head should therefore be demagnetized regularly with a commonly sold head demagnetizer.
When demagnetizing the head, switch power ON to the tuner amplifier.
To avoid adversely affecting the amplifier and speakers, be sure to set the volume level to MIN. Also disconnect the headphone plug from the PHONES jack.
For further details, refer to the operating instructions accompanying your head demagnetizer.

NOTE:
Do not hold screwdrivers, metal objects or magnets close to the heads.



① Cartridge
② Stylus

REPLACING THE STYLUS

1. **Remove the stylus gently.**
2. **Attach the new stylus to the cartridge.**

NOTE:

- *The service life of the stylus on the supplied cartridge ranges from 800 to 1,000 hours. (After about a year if you play records for about two hours everyday. However, the stylus may need to be replaced earlier depending on the way it is used.)*
- *Using a worn or damaged stylus can damage your records and distort the sound reproduction. Remember to replace the stylus at the earliest possible date.*
- *Always use the PIONEER "PN-210" as a replacement stylus.*
- *Always ask for a genuine PIONEER replacement stylus.*

MAINTENANCE OF EXTERNAL SURFACES

- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surfaces are very dirty, wipe with a soft cloth dipped in some neutral cleanser diluted five or six times with water, and wrung out well, and then wipe again with a dry cloth. Do not use furniture wax or cleaners.
- Never use thinners, benzine, insecticide sprays and other chemicals on or near this unit, since these will corrode the surfaces.

TROUBLESHOOTING

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Investigate the other components and electrical appliances being used.
If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

Symptom	Cause	Remedy
No power is supplied even when power switch is ON (when the tuner amplifier's power switch is OFF, the entire system is OFF).	• Power plug is not connected to wall outlet. • Connecting cables are not all connected securely or properly.	• Plug in the power plug securely. • Refer to the connection section and make the proper cable connections.
No sound from speakers.	• Cables are disconnected from their connectors, or connected improperly • Sound volume is set at MIN. • Speaker cords are not connected. • Speaker cords were connected without removing the vinyl insulation. • The tuner amplifier's Function position is not set properly for the source you wish to listen to.	• Disconnect the power plug from the wall outlet and reconnect all cables properly. • Use the volume control to set the volume appropriately. • Connect the speaker cords properly. • Strip the vinyl insulation from the end of the cords and reconnect them to the speaker connectors. • Set the Function properly.
Sound is heard from one side only.	• One of the speaker's cords is disconnected or cut. • [SX-J720 and SX-J420 only] The balance control is turned to far to one side.	• Connect the speaker cords securely to their connectors, or replace with new cords. • Adjust the control to the center.
Microphone sounds are distorted.	• Microphone level is too high.	• Turn down the microphone level.

CASSETTE DECK FUNCTIONS

[CT-J720WR only] The cassette deck's door does not open.	• The unit's power was turned OFF.	• Turn on the power again.
The cassette tape does not run.	• The tape cassette is not inserted properly.	• Insert the tape cassette properly in the cassette holder.
Deck doesn't operate even when the deck operation buttons are pressed.	• The Deck I/II selector button is not set to the side corresponding to the deck you wish to operate.	• Press the Deck I/II selector button for the deck you wish to operate.
Tape sound cannot be heard.	• The Function is not set to TAPE. • A nonrecorded tape has been loaded.	• Set Function to TAPE. • Replace with a prerecorded tape.
Recording not possible.	• The cassette tape's erasure prevention tab is broken. • The cassette deck's connection with the tuner amplifier is disconnected or not connected properly. • **The deck's recording/playback heads are dirty.**	• Exchange with a new tape, or cover the erasure prevention tab holes with cellophane tape. • Check all connections. • **Clean the recording/playback heads.**
When a new recording is made, the previous recorded sounds can still be heard on the tape.	• **Recording/playback heads are dirty.**	• **Clean the recording/playback heads.**
Cannot copy a tape.	• A cassette tape is loaded in only one deck. • The cassette tape loaded in deck II has its erasure prevention tab broken.	• Cassette tapes must be loaded properly in both decks. • Replace with a tape whose erasure prevention tab has not been broken.

Symptom	Cause	Remedy
Sound is muddy, or reduced in volume.	• **Recording/playback heads are dirty.** • A tape recorded without Dolby NR is being played back with the Dolby NR switch in the ON (B or C) position.	• **Clean the recording/playback heads.** • Set the Dolby NR switch to OFF.
High-frequency sounds are over emphasized.	• A tape recorded with Dolby (B-type or C-type) NR is being played back with the Dolby NR switch in the OFF position.	• Set the Dolby NR switch to the B or C position as appropriate.
Abnormal sounds (humming or whistling) are heard when listening to tapes, CD, or radio broadcasts, and those sounds are recorded on cassette tape recordings.	• Your television's switch is ON when listening to music. • This unit is located too close to your television. • You are trying to use high speed copying.	• Turn your television OFF. • Set your television farther away from this unit. • Try copying at normal speed.
Sound is distorted.	• The distorted sound is on the prerecorded tape. • **Recording/playback heads are dirty.** • Effects were set too strong during recording. • [CT-J720WR only] You are playing a tape which was recorded with the REC LEVEL control set too high.	• Replace the cassette tape. • **Clean the recording/playback heads.** • Turn down the effect level. • Adjust the REC LEVEL control properly and record again.
Quavering or skipping sound.	• **Recording heads, pinch roller, or capstan are dirty.** • The cassette tape is not wound with even tension.	• **Perform cleaning.** • Use the fast forward or rewind function to rewind the tape completely.
Large amounts of noise.	• The tape used has high levels of noise. • **Recording heads are dirty.** • Heads are magnetized. • Connecting cables are connected poorly. • [CT-J720 WR only] You are playing a tape which was recorded with the REC LEVEL control set too low.	• Replace the cassette tape with another. • **Clean the recording/playback heads.** • Demagnetize the heads (head demagnetizers can be purchased from your stereo dealer). • Check the input and output connection cables and reconnect if necessary. • Adjust the REC LEVEL control properly and record again.
Music search function does not work.	• The tape used does not have unrecorded intervals between tracks of at least four seconds each.	• Use a prerecorded tape that has at least four-second unrecorded intervals between tracks.

AM RECEPTION FUNCTIONS

AM broadcasts cannot be heard.	• The antenna is not connected. • The FM/AM/Sta button is not set to the AM position. • Tuning is incorrect.	• Connect the AM loop antenna correctly. • Set to the AM band. • Use the up ▲ or down ▼ buttons to tune the unit to the desired station frequency.
Beat noise heard.	• A television is being used nearby. • A loop antenna is too near the unit.	• Turn off the television or move it away from the unit. • Set the loop antenna to the optimum position.
Sound is distorted.	• The accessory AM loop antenna is not oriented in the proper location or direction.	• Move the antenna as far as possible from the unit body and change its orientation to find

Symptom	Cause	Remedy
Sound is distorted.	• The antenna is oriented poorly. • The signal from the tuned station is too weak. • Noise is being received from other appliances (particularly when a motorcycle or automobile passes nearby), or multipath distortion is being received. • The CD player's connection cables are too near the antenna cable (particularly when using an indoor antenna, or when the station signal is weak).	• Change the antenna orientation so that noise is minimized. • Install an outdoor antenna. • Try changing the antenna position; if you are using an outdoor antenna, move the antenna installation farther away from roads. • Separate the CD player's connection cables as far as possible from the antenna cable. Or turn off the power to the CD player.
Stereo broadcasts are not received in stereo.	• The station signal is too weak, resulting in insufficient antenna input. • The MONO button has been pressed.	• Change to a multielement outdoor antenna. • Cancel the MONO mode.

CLOCK/TIMER FUNCTION

The clock display shows "--:--".	• A power failure occurred. • The power cord was disconnected from its wall outlet.	• Set the clock to the current time. • Set the clock to the current time.
The timer does not operate.	• The clock has not been set to the current time. • The timer's ON and OFF times have not been set.	• Set the clock properly to the current time. • Set the ON and OFF times.

REMOTE CONTROL FUNCTIONS

The remote control unit does not work.	• No batteries are in the remote control unit, or the batteries are depleted. • A fluorescent lamp is located too near the remote control signal receiver. • The remote control unit is being used too far from the main unit, or at too sharp an angle from the tuner amplifier. • An obstruction (chair, curtain, etc.) is located between the remote control unit and the main unit. • Connectors are not fastened securely.	• Load batteries, or replace the current batteries with new ones. • Move the fluorescent lamp farther away from the signal receiver. • Use the remote control unit within a distance of about 7 meters from the unit, and within an angle of about 30° relative to the front of the tuner amplifier. • Move to a different position, or remove the obstruction. • Fasten the connectors securely.

SOUND FIELD CONTROL FUNCTIONS

The sound field control does not work.	• The tuner amplifier's SOURCE DIRECT button is set to ON.	• Set to OFF.

TURNTABLE

Platter does not run.	• Belt is off.	• Put belt correctly on platter.
No sound.	• Input selector not set to PHONO.	• Set input selector to PHONO.
Noise or scratchy sounds.	• Dust on record. • Scratch on record.	• Clean record. • Use good record.

- *Abnormal functioning of this unit may be caused by lightning, static electricity, or other external interference. To restore normal position, turn the power off and then on again, or unplug the AC power cord and then plug it in again.*
- *This unit is equipped with an internal fan to promote internal cooling. Even when sound is not being played back, the fan may turn every few minutes for cooling purposes; this is not a malfunction.*

SPECIFICATIONS

TUNER AMPLIFIER: SX-J720/SX-J420/SX-J320

FM Tuner Section

Frequency range ..... 87.5 MHz to 108 MHz
Usable Sensitivity..... Mono: 12.8 dBf, IHF (1.2 µV/75 Ω)
Signal-to-Noise Ratio (IHF, 85 dBf Input)..... Mono: 77 dB
Stereo: 73 dB
Distortion ..... Stereo: 0.5 % (1 kHz)
Antenna Input..... 75 Ω unbalanced
Output..... 650 mV (100 % MOD.)

MW (AM) Tuner Section

Frequency range
9 kHz step..... 531 kHz to 1,602 kHz
10 kHz step..... 530 kHz to 1,700 kHz
Sensitivity (IHF, Loop antenna) ..... 350 µV/m
Output..... 150 mV (30 % MOD.)

Amplifier Section

[SX-J320]
Continuous Power Output (RMS)
..... 70 W + 70 W (1 kHz, T.H.D 10 %, 8 Ω)
Peak music power .....620 W
Total Harmonic Distortion (1 kHz, 30 W, 8 Ω) ..... 0.1 % **

[SX-J420]
Continuous Power Output (RMS)
Front ..... 70 W + 70 W (1 kHz, T.H.D 10 %, 8 Ω)
Rear..... 11 W + 11 W (1 kHz, T.H.D 10 %, 16 Ω)
Center..... 22 W (1 kHz, T.H.D 10 %, 8 Ω)
Peak music power .....750 W
Total Harmonic Distortion (1 kHz, 30 W, 8 Ω) ..... 0.1 %**

[SX-J720]
Continuous Power Output (RMS)
Front ..... 110 W + 110 W (1 kHz, T.H.D 10 %, 8 Ω)
Rear..... 12.5 + 12.5 W (1 kHz, T.H.D 10 %, 16 Ω)
Center..... 25 W (1 kHz, T.H.D 10 %, 8 Ω)
Peak music power .....1100 W
Total Harmonic Distortion (1 kHz, 55 W, 8 Ω) ..... 0.1 %**

Power Supply/Miscellaneous

Power requirements
Flat blade 2-pin AC plug model
..... AC 110 – 115/120 – 127/220 – 230/240 V
(switchable), 50/60 Hz
Round 2-pin AC plug model..... AC 220 – 230/240 V
(switchable), 50/60 Hz
Power consumption
SX-J720..... 430 W
SX-J420..... 340 W
SX-J320..... 300 W
AC outlets
SX-J720, SX-J420 only
unswitched (x 1)..... 100 W MAX

Dimensions ..... 360 (W) x 361.5 (D) x 120.5 (H) mm
Weight
SX-J720 ..... 7.7 kg
SX-J420 ..... 7.3 kg
SX-J320 ..... 6.9 kg

Accessories

Operating instructions..... 1
Remote control unit..... 1
Dry cell batteries "AAA" (IEC R03/UM-4) 2
FM T-type Antenna 1
AM Loop Antenna..... 1
Power cord 1

** Measured By Audio Spectrum Analyzer.

SOUND FIELD PROCESSOR: SP-J720K/SP-J420 SOUND IMAGE CONTROLLER: GR-J320

Central frequencies ..... 60 Hz, 150 Hz, 400 Hz,
1 kHz, 2.4 kHz, 6 kHz, 15 kHz
Maximum range of variation ..... ±10dB

Spectrum Analyzer Section

Central frequencies ..... 60 Hz, 150 Hz, 400 Hz,
1 kHz, 2.4 kHz, 6 kHz, 15 kHz
Dimensions ..... 360 (W) x 348 (D) x 90.5 (H) mm
Weight..... 3.7 kg

STEREO DOUBLE CASSETTE TAPE DECK: CT-J320WR/CT-J720WR

[CT-J320WR]
Systems..... 4 track, 2-channel stereo
Heads ..... "Hard Permalloy" playback head x 1
"Hard Permalloy" recording/playback head x 1
"Ferrite" erasing head x 1
Motor ..... DC servo 2 speed motor x 2
Wow and flutter ..... ±0.19 % (DIN)
0.09 % (WRMS)
Fast winding Time ..... Approximately 120 seconds (C-60 tape)
Frequency Response (–20 dB recording):
TYPE I (Normal) ..... 20 Hz to 16,000 Hz ± 6 dB
TYPE II (HIGH/CrO_2) ..... 20 Hz to 16,000 Hz ± 6 dB
Signal-to-Noise ratio
Dolby NR OFF..... More than 58 dB
Noise Reduction Effect
Dolby B type NR ON..... More than 10 dB (at 5 kHz)
Dolby C type NR ON..... More than 19 dB (at 5 kHz)
Harmonic distortion..... No more than 1.0 % (–4 dB: 160 nwb/m)

Miscellaneous

Dimensions ..... 360 (W) x 348 (D) x 120.5 (H) mm
Weight (without package)..... 3.7 kg

[CT-J720WR]

Systems ..... 4 track, 2-channel stereo
Heads ..... "Hard Permalloy" playback head x 1
"Hard Permalloy" recording/playback head x 1
"Ferrite" erasing head x 1
Motor ..... DC servo 2 speed motor x 2
DC motor (loading) x 2
Wow and flutter ..... ±0.19 % (DIN)
0.09 % (WRMS)
Fast Winding Time..... Approximately 120 seconds (C-60 tape)
Frequency Response (–20 dB recording):
TYPE I (Normal) ..... 20 Hz to 16,000 Hz ± 6 dB
TYPE II (HiGH/CrO_2) ..... 20 Hz to 16,000 Hz ± 6 dB
TYPE IV (Metal) ..... 20 Hz to 17,000 Hz ± 6 dB
Signal-to-Noise ratio
Dolby NR OFF ..... More than 58 dB
Noise Reduction Effect
Dolby B type NR ON ..... More than 10 dB (at 5 kHz)
Dolby C type NR ON ..... More than 19 dB (at 5 kHz)
Harmonic distortion .... No more than 1.0 % (–4 dB: 160 nwb/m)

Miscellaneous

Dimensions ..... 360 (W) x 348 (D) x 120.5 (H) mm
Weight (without package) ..... 4.0 kg

STEREO TURNTABLE: PL-J210

Motor, Platter

Motor Type ..... DC servo motor
Drive Method ..... belt drive
Speed ..... 33-1/3, 45 RPM
Wow and Flutter ..... 0.07 % WRMS (JIS)
±0.10 % WTD Peak (DIN)
Signal-to-Noise Ratio ..... 63 dB (DIN-B)
Platter ..... 295 mm dia., aluminum die-cast

Tonearm

Type ..... Dynamic balance type, straight tonearm

Installed Cartridge

Type ..... MM Type
Stylus ..... 0.6 mil diamond
Replacement Stylus PN-210
Output voltage ..... 2.5 mV (1 kHz, 5 cm/s, Lat. peak)
Tracking Force ..... 2.0 – 3.0 g (optimum 2.5 g)
Frequency Response ..... 20 Hz to 25,000 Hz
Load Resistance ..... 47 kΩ
Cartridge Weight ..... 4 g

Other

Dimensions ..... 360 (W) x 364 (D) x 94 (H) mm
Weight ..... 2.4 kg

Accessories

EP Adapter 1

SPEAKERS SYSTEM: S-J420V/S-J720V

[S-J420V]

Enclosure ..... Book-shelf style, Bass-reflex type
System ..... 3-way, 3-speaker system
Loudspeakers:
Woofer ..... 20 cm cone type
Tweeter ..... 6.6 cm cone type
Super tweeter ..... 2.0 cm dome type
Nominal impedance ..... 8 Ω
Frequency Range ..... 37 to 20,000 Hz
Sensitivity ..... 87 dB/Watt 1 m distance
Maximum Power ..... 70 W
External Dimensions ..... 250 (W) x 300 (D) x 485 (H) mm
Weight ..... 5.8 kg (each one)
Accessory Parts ..... Speaker Cords x 2

[S-J720V]

Enclosure ..... Book-shelf style, Bass-reflex type
System ..... 3-way, 3-speaker system
Loudspeakers:
Woofer ..... 22 cm cone type
Mid range ..... 10 cm cone type
Tweeter ..... 6.6 cm cone type
Nominal impedance ..... 8 Ω
Frequency Range ..... 35 to 20,000 Hz
Sensitivity ..... 88 dB/Watt 1 m distance
Maximum Power ..... 110 W
External Dimensions ..... 280 (W) x 398 (D) x 525 (H) mm
Weight ..... 9.3 kg (each one)
Accessory Parts ..... Speaker Cords x 2

* *Specifications and design subject to possible modification without notice due to improvement.*

POWER-CORD CAUTION

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

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